

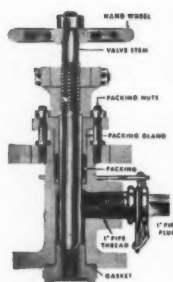
Technology
REVIEW
Number
MAY 1940



P A C I F I C
PULP AND PAPER
I N D U S T R Y

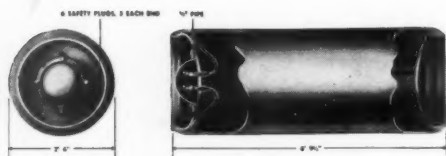
For your safety and convenience *care is paramount* in supplying **LIQUID CHLORINE**

1



Cross section of Single Unit Tank Car valve. After inspection and reassembling, valves for all containers, whether old or new, are tested in a submerged position at 500 lb. per sq. in. pressure—the highest pressure to which any container is subjected in service. Valves passing this test are repacked with new packing before being placed in service.

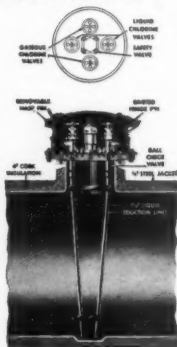
2



Cross section of Ton Container. On return to the plant all containers are completely emptied and their interiors carefully inspected. They are cleaned and the moisture is removed by bone dry hot air. New or reconditioned valves are then installed and the containers loaded with their rated quantity of liquid chlorine which is checked twice for the correct net weight.

3

Cross section of Single Unit Tank Car Dome, showing the two liquid chlorine valves and the spring loaded safety valve in the center. Not shown are the two gaseous chlorine valves. For cleaning tank cars the dome cover plate is removed and workmen enter the car and thoroughly clean it.



4



Multiple Unit Tank Cars carry fifteen 1-ton containers which are fastened in cradles on the car. These fasteners are carefully checked so that the ton container can be easily removed at your plant.

PENNSYLVANIA SALT
MANUFACTURING CO. OF WASHINGTON
Chemicals
TACOMA, WASHINGTON

PACIFIC *Pulp & Paper* **INDUSTRY**

71 COLUMBIA STREET ♦ SEATTLE ♦

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Selling agents



**WOOD
PULP**

and

PAPER

BULKLEY, DUNTON PULP CO.

INCORPORATED

295 MADISON AVENUE, NEW YORK

1939--An Unexpectedly Good Year For the Pulp and Paper Industry

At year's start prospects indicated some betterment over 1938 but the outbreak of war in Europe was the principal factor in stimulating U. S. pulp and paper production to new high records.

THE American pulp and paper industry is accustomed to ups and downs, to feasts and famines and particularly to the famines for they have been of longer duration.

At the beginning of 1939 predictions were cautiously made that paper and paperboard production would be better than in 1938, probably from 8 to 10 per cent better. If any expected the last quarter of the year to be a boom period they did not commit themselves publicly. No one went on record in the early days of 1939 to the effect that the year would see new all-time highs attained in the domestic production of pulp, paper and paperboard. Paper and paperboard production, taking the country as a whole, gained 18 per cent in 1939 with a total of 13,441,500 short tons as compared with 11,380,814 short tons reported by the Bureau of the Census for 1938.

Nationally, the production of wood pulp rose even more, from 5,933,060 short tons in 1938, according to the Bureau of the Census, to a total of 7,117,000 short tons as estimated by the United States Pulp Producers Association, a gain of nearly 20 per cent.

On the Pacific Coast (Washington and Oregon) wood pulp production fell short of its record year of 1937 but surpassed 1938. Production of all grades of wood pulp last year on the West Coast amounted to 1,384,147 short tons, reports the United States Pulp Producers Association. This was 296,400 tons higher or 27.25 per cent greater than the 1,087,747 tons produced in 1938.

The 1939 production of wood pulp on the West Coast was 139,045 tons or 9.1 per cent less than the peak year of 1937 when 1,523,192 short tons were produced.

Washington Up 32.4% Over 1938

● Of the 1,384,147 short tons of all grades of wood pulp manufactured on the Pacific Coast (Washington and Oregon) in 1939, it is estimated by this journal that Washington produced 1,107,318 short tons and Oregon 270,829 short tons. These estimates are based

upon the ratio of Washington and Oregon production in 1938, as reported by the Census Bureau, to the total for the region. Washington's estimated production of 1,107,318 short tons was 270,359 tons or 32.4 per cent greater than the 1938 pulp production of 836,959 tons. However, the 1939 output of wood pulp in Washington was 77,072 tons or 6.5 per cent below the record production of 1,184,390 tons in 1937.

Production Rose 111% in Decade

● The production of wood pulp in the State of Washington in 1929 was 523,948 short tons. In 1939 it was 1,107,318 short tons, a gain of 583,370 tons or 111 per cent.

Oregon's pulp production, on the other hand remained almost static. In 1929 the production of wood pulp in that state was 256,546 short tons while in 1939 the production was 270,829 short tons. The increase over the decade was 14,283 short tons or 5.5 per cent.

From the table on regional percentages of wood pulp production it will be noted that the Pacific Coast produced 19.4 per cent of the total United States wood pulp production in 1939 against 19 per cent in 1938 and 24.6 per cent in 1937. Of the sulphite pulps 39.5 per cent were produced on the West Coast as compared with 34.5 per cent in 1938 and 40.8 per cent in 1937. Of the sulphates the Coast's output amounted to 9.8 per cent of the total as against 10 per cent in 1938 and 12.1 per cent in 1937. Of groundwood the West produced 18 per cent last year against 17.5 per cent in 1938 and 20 per cent in 1937. Soda pulp, reported on a percentage basis by the United States Pulp Producers Association for the first time in 1939, amounted to 4.5 per cent of the American total.

At first glance it will seem odd that Pacific Coast wood pulp production was 9.1 per cent below its peak in 1937 while the national pulp production of 7,117,000 tons was 544,082 tons or 8.2 per cent larger than the 1937 production of 6,572,918 tons. The explanation is largely to be found in the imports of low cost pulp during the first nine months of 1939, before the war

UNITED STATES WOOD PULP PRODUCTION BY REGIONS—1939

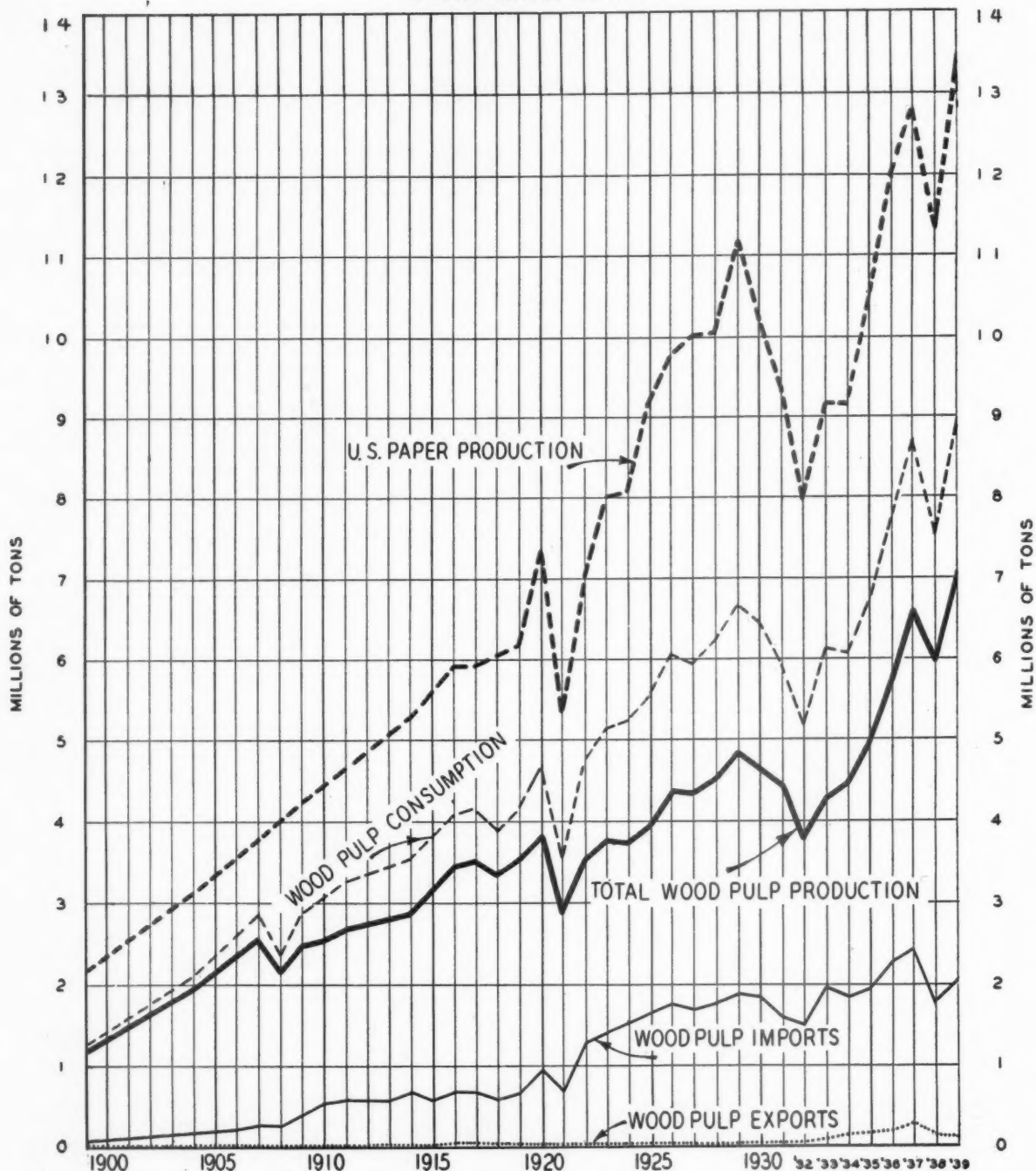
Source—United States Pulp Producers Association
(Tons of 2,000 Pounds)

Region	Total All Grades	Total Sulphite	Bleached Sulphite	Unbleached Sulphite	Total Sulphate	Bleached Sulphate	Unbleached Sulphate	Ground- Wood	Soda	Special & Off- Quality
West Coast	1,384,147	780,083	431,661	348,422	297,088	78,252	218,836	271,798	21,000	14,178
New England	1,070,927	436,117	281,713	154,404	(¹)	-----	(¹)	523,666	110,026	1,118
Middle Atlantic	579,713	177,743	84,344	93,399	-----	-----	-----	244,746	157,224	-----
Lake States	1,154,741	541,008	397,233	143,775	231,376	46,035	185,341	333,283	45,000	4,074
South	2,927,472	35,049	35,049	-----	2,473,536	307,713	2,165,823	76,507	131,750	210,630
Totals	7,117,000	1,970,000	1,230,000	740,000	3,002,000	432,000	2,570,000	1,450,000	465,000	230,000

¹ Included in Lake States to avoid disclosing individual mill's data.

Source: As reported to the United States Pulp Producers Association by 91 per cent of the industry and estimated for 9 per cent.

TOTAL WOOD PULP PRODUCTION, CONSUMPTION, IMPORTS
AND EXPORTS AND TOTAL PAPER PRODUCTION
OF THE UNITED STATES



Sources for Paper Production - U.S. Bureau of the Census except
1924, 1926 & 1939 estimated by American Paper & Pulp Association
for Pulp Production - 1899-1938 U.S. Bureau of the Census
1939 estimated by U.S. Pulp Producers Association
Imports & Exports - U.S. Bureau of Foreign & Domestic Commerce

UNITED STATES WOOD PULP PRODUCTION BY REGIONS—1938

Source—United States Pulp Producers Association
(Tons of 2,000 Pounds)

Region	Total All Grades	Total Sulphite	Bleached Sulphite	Unbleached Sulphite	Total Sulphate	Bleached Sulphate	Unbleached Sulphate	Ground-Wood	Off-Quality
West Coast	1,036,220	554,642	306,306	248,336	241,588	52,440	189,148	233,872	6,118
New England	866,810	382,500	241,612	140,888			²	484,310	
Middle Atlantic	423,875	178,790	77,883	100,907				245,085	
Lake States	1,006,023	478,772	338,903	139,869	215,708	41,000	174,708	306,008	5,535
South	2,242,072		35,296	¹	2,012,704	231,560	1,781,144	55,725	138,347
Totals ³	5,575,000	1,594,704	1,000,000	630,000	2,470,000	325,000	2,145,000	1,325,000	150,000

¹ Included in Middle Atlantic States to avoid disclosing individual mill's data.

² Included in Lake States to avoid disclosing individual mill's data.

³ Does not include Soda Pulp. (About 15,000 tons of soda pulp was produced on the Pacific Coast in 1938.—Editor)

Source: As reported to the United States Pulp Producers Association by 90 per cent of the industry and estimated for 10 per cent.

in Europe broke out. The "married" contracts between pulp importers and converting mill customers, made in 1938 when the market was declining, carried over through the first half of 1939, and since these were for relatively large tonnage in proportion to the paper production, there wasn't much business left over for the domestic pulp mills. The upturn didn't come until early in August when buyers became worried over the threat of a European war and began to increase orders from domestic pulp mills. The "married" contracts were pretty well run out by that time and the buying mills were freer to chose their source of pulp for the balance of the year.

British Columbia Production Up

● British Columbia's wood pulp production in 1939 was 331,500 short tons according to the Department of Lands, Forest Branch. This was 89,480 tons or 36.9 per cent greater than the 242,020 tons produced in the province in 1938. But the 1939 production was 22.1 per cent or 94,058 tons below the peak year of 1937's production of 425,558. It will be noted from a study of the table that British Columbia's pulp production last year was lower than six previous years, 1930, 1933, 1934, 1935, 1936 and 1937.

The province's paper and paperboard production last year amounted to 267,412 short tons according to the figures of the Department of Lands, Forest Branch. This was an increase of 45,107 tons or 20.2 per cent over 1938 production of 222,305 tons, but it was lower than the paper and paperboard production in 1934, 1935, 1936 and 1937. The year 1937 witnessed the peak production in British Columbia when 320,920 tons of paper and paperboard were produced. This was 53,508 tons or 16.6 per cent more than in 1939.

U. S. Paperboard Production

● Paperboard production, all grades, attained a new high in 1939 or 5,895,600 short tons, according to the census taken by the National Paperboard Association. This was 993,000 tons or 20.2 per cent greater than the 1938 production of 4,902,600 short tons, and 382,300 short tons or 6.9 per cent larger than the 5,513,300 tons produced in 1937, the previous high record year.

No comparison of paperboard production on the West Coast with that in other regions is possible, as neither the National Paperboard Association nor the Bureau of the census release figures permitting this segregation. The Association's production figures for

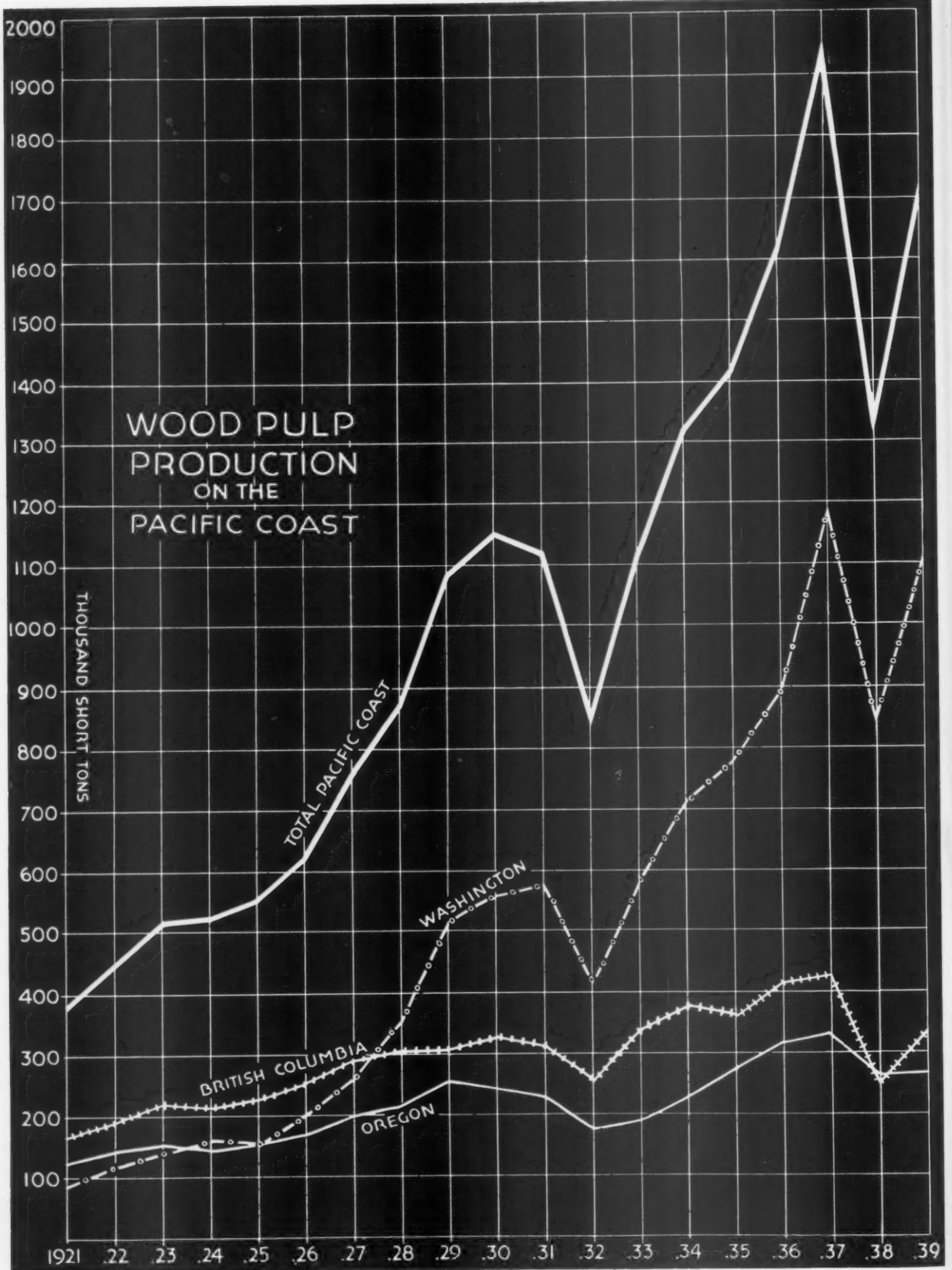
TOTAL UNITED STATES PRODUCTION OF WOOD PULP By Grades—1925-1939*

(Tons of 2000 pounds)

Year.	Total	Unbleached Sulphite	Bleached Sulphite	Total Sulphate	Groundwood	Soda	All Other
1925	3,962,217	790,510	612,576	409,768	1,612,019	472,647	64,697
1926	4,394,766	911,729	646,466	519,960	1,764,248	496,920	55,463
1927	4,313,403	872,411	680,288	603,253	1,610,409	487,478	59,564
1928	4,510,800	836,751	722,107	774,225	1,610,988	488,641	78,088
1929	4,862,885	848,754	839,953	910,888	1,637,653	520,729	104,908
1930	4,630,308	815,897	751,166	949,513	1,560,221	474,230	79,281
1931	4,409,344	675,859	740,812	1,034,291	1,449,240	374,054	135,088
1932	3,760,267	548,702	596,937	1,028,846	1,203,044	290,703	92,035
1933	4,276,204	601,102	726,473	1,259,351	1,197,553	457,790	33,935
1934	4,281,428	599,905	806,612	1,240,967	1,253,398	477,089	35,457
1935	5,032,299	634,947	944,620	1,467,749	1,355,819	485,162	144,002
1936	5,695,219	693,903	1,127,039	1,794,734	1,475,620	557,695	46,228
1937	6,713,576	791,575	1,348,669	2,139,087	1,600,667	507,548	326,030
1938	5,933,560	601,855	1,004,621	2,443,057	1,333,308	395,307	155,418
1939	7,117,000	740,000	1,230,000	3,002,000	1,450,000	465,000	230,000

*Source: From 1925 through 1933 and for 1935 through 1938, U. S. Census. 1934 and 1939 data from United States Pulp Producers Association.

¹Includes 151,068 tons of rayon and special chemical grades and 17,193 tons of superpurified pulp.



UNITED STATES WOOD PULP PRODUCTION, CONSUMPTION, IMPORTS, EXPORTS 1939

(In tons of 2,000 pounds)

Grade—	Consumption ¹	Production ²	Imports ³	Exports ³
Sulphite—				
Bleached	1,632,634	1,230,000	474,109	71,475
Unbleached	1,360,278	740,000	661,193	40,915
Total	2,992,912	1,970,000	1,135,302	112,390
Sulphate—				
Bleached	531,967	432,000	108,252	8,285
Unbleached	3,101,351	2,570,000	546,167	14,816
Total	3,633,318	3,002,000	654,419	23,101
Soda	469,939	465,000	8,952	4,013
Special and Off Quality	230,000	230,000	0	0
Groundwood	1,677,768	1,450,000	227,768	0
TOTAL	9,003,937	7,117,000	2,026,441	139,504

Source: United States Pulp Producers Association.

¹Estimated on the basis that consumption equals production and import: minus exports.

²Estimated for 100 per cent of the industry by the United States Pulp Producers Association.

³Bureau of Foreign & Domestic Commerce, U. S. Department of Commerce.

1939 by zones, which includes in the Western zone all territory west of the Mississippi River except Texas, showed production in that area to have been 526,430 tons, a gain of 92,830 tons or 21.4 per cent over the 433,600 tons produced in the same zone in 1938. Paperboard production details are shown in the tables and graphs.

Coast Paper and Paperboard Production

● Combined paper and paperboard production in Washington, Oregon and California for 1939 must of necessity be estimated as the state figures are not avail-

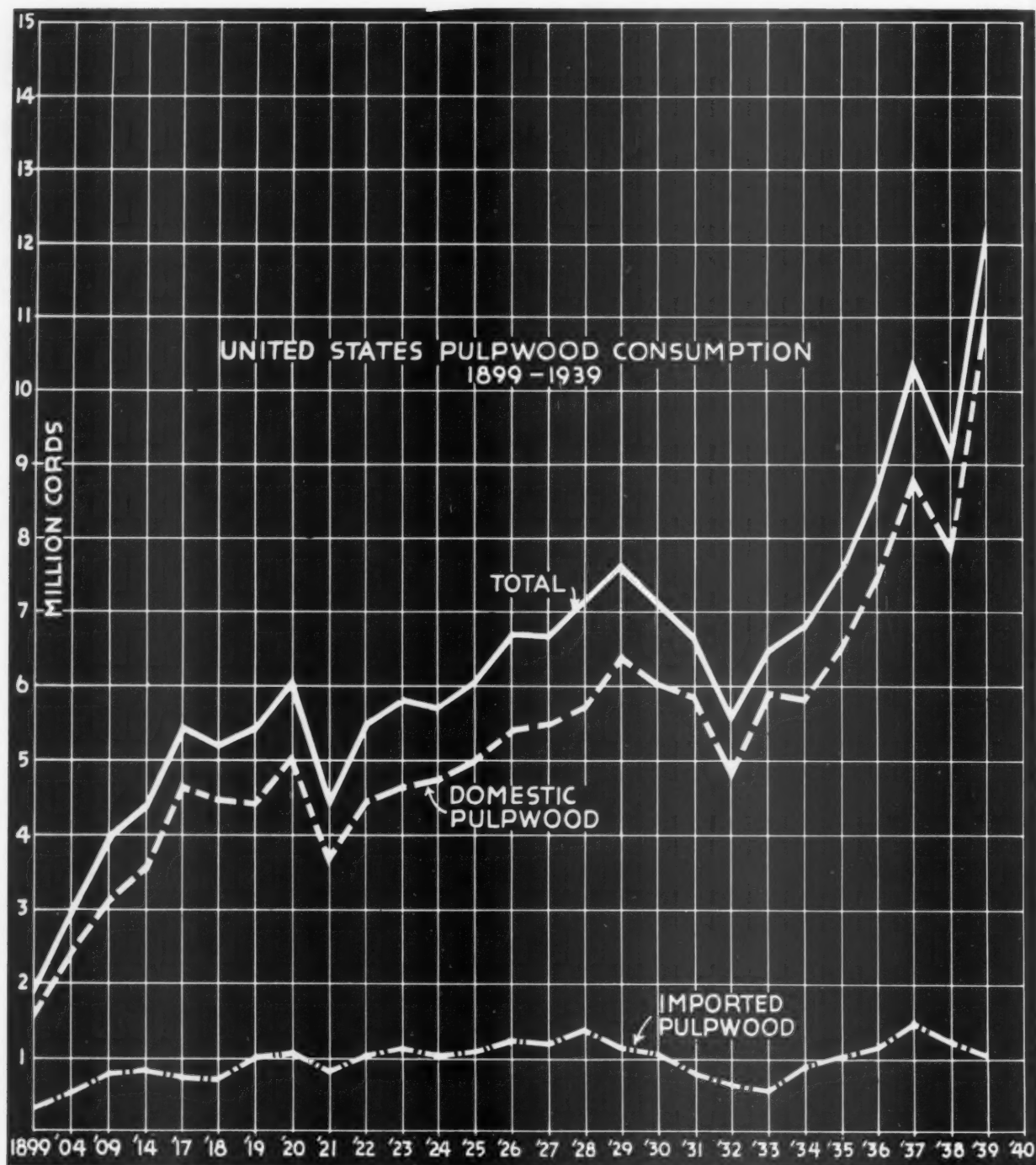
able until the 1939 Census of Manufactures report is issued. However, the assumption that the Pacific Coast paper and paperboard industry closely follows the percentage increase or decrease of the American industry as a whole, has proved approximately accurate. Hence, by applying the 18 per cent increase in national paper and paperboard production in 1939 over 1938 to the census figures for the latter year we can estimate that Washington produced 557,178 tons of paper and paperboard; Oregon produced 277,157 tons and California 286,189 tons. The total of 1,120,524 short tons was 170,927 tons larger than the 1938 total of 949,597

UNITED STATES WOOD PULP PRODUCING CAPACITY BY REGIONS 1939

(In tons of 2,000 pounds)

Grade—	New England	Middle Atlantic	Lake States	Pacific	South	Total
Sulphite—						
Bleached	373,228	138,855	451,454	626,507	74,611	1,664,655
Unbleached	246,312	161,411	152,495	445,320	0	1,005,538
Total	619,840	301,266	603,949	1,071,827	74,611	2,670,193
Sulphate—						
Bleached	0	0	59,842	89,788	346,414	496,044
Unbleached	23,400	0	218,673	225,225	2,669,937	3,137,235
Total	23,400	0	278,515	315,013	3,016,351	3,633,279
Soda	142,530	310,100	51,150	22,320	153,482	679,582
Special and Off Quality	0	0	1,550	0	267,308	268,858
Groundwood	717,221	438,543	564,856	376,560	147,734	2,244,914
TOTAL	1,502,691	1,048,909	1,500,020	1,785,720	3,659,486	9,496,826

Source: United States Pulp Producers Association. The 1939 capacity figures given above have been computed from the daily rated capacity during 1939 as reported to the United States Pulp Producers Association, multiplied by the number of days the companies reported they could operate during the year.



tons, and 22,017 tons or 2 per cent larger than the 1,098,507 tons produced in 1937 the previous high year.

Production Ratios

● The weekly production to capacity ratio report of the American Paper & Pulp Association for paper manufacturing started 1939 with 77.5 per cent which was 13.6 per cent better than the 63.9 per cent at the beginning of 1938. The ratio rose to 84 per cent in March and then declined again to 75.2 in July. From then on the rise was steady, 82.9 per cent in August,

88.7 per cent in September, 96.6 per cent in October and the high point was reached with 97.2 per cent in November. December declined to 91.1 per cent.

For the entire year the ratio of production to capacity was 84.9 per cent. This was 12.6 per cent better than the average for 1938 of 72.3 per cent, and 4.3 per cent better than the average for 1937 of 80.6 per cent. The monthly ratio had started out in 1937 at 90.3 per cent and remained in the nineties for the first five months. From then on it declined to a low of 54.5 per cent for

REGIONAL PERCENTAGES OF UNITED STATES WOOD PULP PRODUCTION Total and by Grades in 1937, 1938 and 1939

Region	Sulphite			Sulphate			Groundwood			Soda			Total		
	1937	1938	1939	1937	1938	1939	1937	1938	1939	1937	1938	1939	1937	1938	1939
New England	24.0	23½	22.1	(1)	(1)	(1)	39.4	36½	36.9	-----	-----	23.6	18.9	16	13.6
Middle Atlantic	9.2	11	9	0	0	0	16.4	18½	16.8	-----	-----	33.8	7.7	8	8.1
Lake States	23.0	29	27.3	12	9	7.7	21.2	23½	22.9	-----	-----	9.6	19	18	16.2
South	3.0	2	1.7	75.9	81	82.3	3	4	5.2	-----	-----	28.3	30	39	41.1
West Coast	40.8	34½	39.5	12.1	10	9.8	20	17½	18	-----	-----	4.5	24.6	19	19.4
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: As reported to the U. S. Pulp Producers Association by 91 per cent of the industry and estimated for the remaining 9 per cent, for 1939.
(1) So as not to disclose individual mill's operations the production for 1937, 1938 and 1939 is included in the Lake States.

December, 1937. This latter month brought the year's average way down.

In 1939, M. C. Dobrow, secretary of the Writing Paper Manufacturers Association, figures that idle paper machine capacity amounted to 17 per cent the same as in 1936. These two years, 1936 and 1939 showed the lowest idle capacity percentage of total capacity of any year since 1925. Even in the busy year of 1937 idle capacity was 18 per cent of the total according to Mr. Dobrow's figures.

The year 1940 has averaged well to date, May 11th. From 91.1 per cent of capacity operations in December, 1939, the average dropped slightly to 90.6 per cent in January, 1940. Then down to 86.3 per cent for February and to 84. per cent in March. April rose to

86.4 per cent, and the first two weeks in May showed 91.6 per cent and 90.4 per cent respectively. The average for the first 19 weeks of 1940 is 87.4 per cent of capacity against 81.8 per cent in 1939, 67.7 per cent in 1938 and 90.6 per cent in 1937.

For 1939 the National Paperboard Association reported the paperboard industry as operating at 70 per cent of capacity on its "Inch-Hours" basis, against 61 per cent for 1938 and 73 per cent for 1937. The year started with 60 per cent in January, 1939, and rose to a high in October of 84 per cent. The first four months of 1940 have shown 71, 70, 69 and 70 per cent respectively. The first two weeks in May showed 77 and 74 per cent operations. The paperboard industry normally encounters a Spring and Fall rise in production.

SUMMARY FOR 1939 OF UNITED STATES WOOD PULP PRODUCTION, SHIPMENTS and STOCKS*

Tons of 2,000 lbs., air dry weight

	Production	Used	Shipments		Stocks on Hand	
			Domestic Market	Export	End of Period	End of Period
					12/31/39	1/1/39
Total All Grades, 1939 ¹	7,117,000	9,003,937	894,930	139,504	159,415	166,687
Total Sulphite	1,970,000	2,992,912	628,885	112,390	85,844	86,452
Total Bleached Sulphite	1,230,000	1,632,634	426,447	71,475	54,151	54,660
Rayon	159,205	199,027	106,760	48,232	-----	7,281
Other	1,070,795	1,433,361	319,687	23,243	-----	47,379
Total Unbleached Sulphite	740,000	1,360,278	202,438	40,915	31,693	31,782
Total Bleached Sulphate	432,000	531,967	73,408	8,285	15,794	22,696
Total Unbleached Sulphate	2,570,000	3,101,351	61,955	14,816	17,759	17,370
Total Soda	465,000	469,939	86,591	4,013	-----	4,826
Total Groundwood	1,450,000	1,677,768	29,798	-----	37,182	34,218
Total ² Other Pulps	230,000	230,000	14,293	-----	2,836	1,125

*Source: United States Pulp Producers Association.

¹As reported to the United States Pulp Producers Association by 91 per cent of the industry's productive capacity and estimated for 9 per cent.

²Includes miscellaneous grades for which no classifications are shown.

SUMMARY FOR 1938 OF UNITED STATES WOOD PULP PRODUCTION, SHIPMENTS and STOCKS*

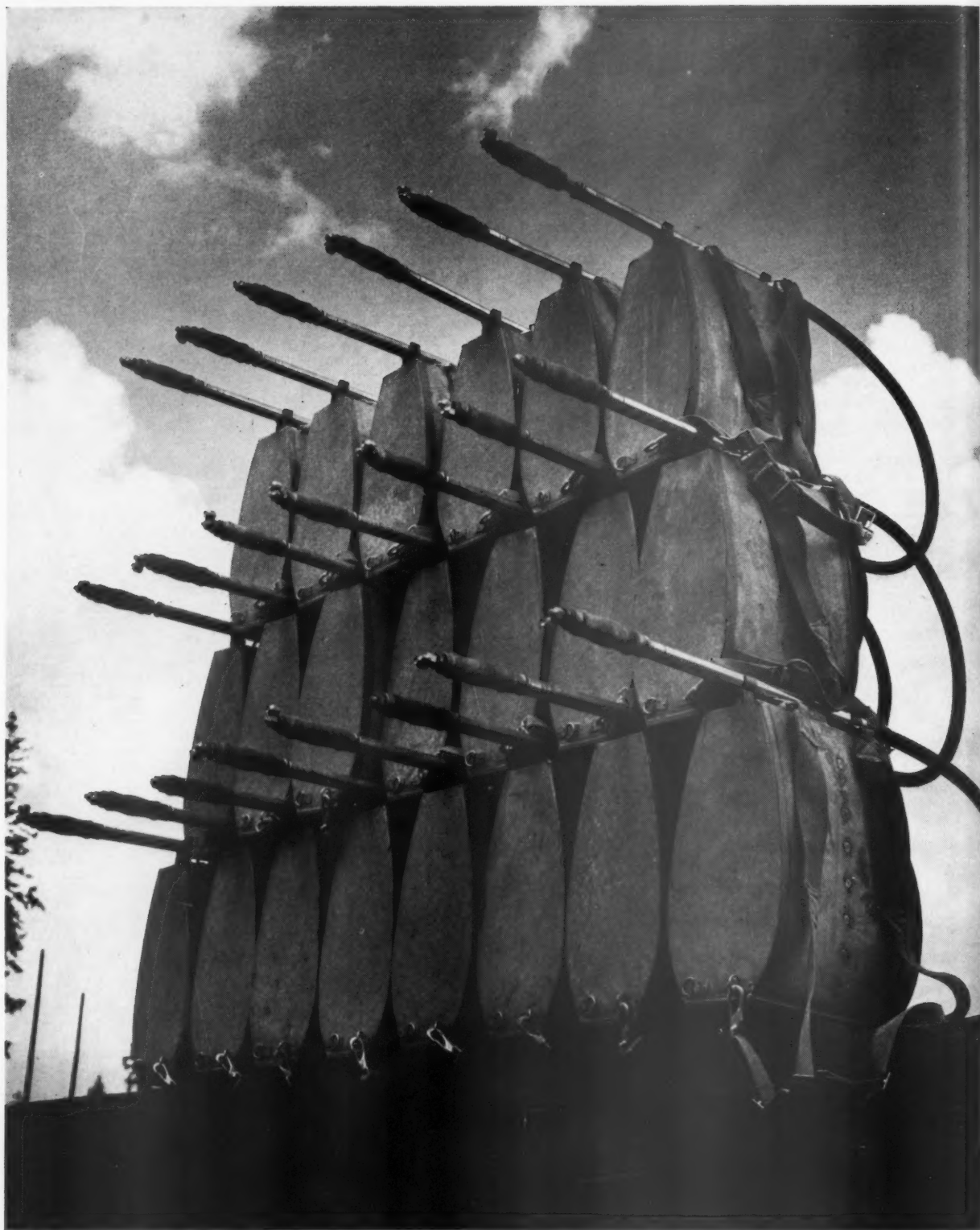
Tons of 2,000 lbs., air dry weight.

	Production	Used	Shipments		Stocks on Hand	
			Domestic Market	Export	End of Period	End of Period
					12/31/38	1/1/38
Total All Grades, 1938 ¹	5,975,000	7,545,029	627,300	140,484	166,687	170,571
Total Sulphite	1,630,000	2,531,743	445,230	124,238	86,452	110,194
Total Bleached Sulphite	1,000,000	1,247,397	321,230	90,262	54,660	74,850
Rayon	171,650	164,069	98,202	72,800	7,281	-----
Other	828,350	1,083,328	223,028	17,462	47,379	-----
Total Unbleached Sulphite	630,000	1,284,346	124,000	33,976	31,782	35,344
Total Bleached Sulphate	325,000	414,673	41,923	500	22,696	6,620
Total Unbleached Sulphate	2,145,000	2,565,589	24,000	5,500	17,370	14,732
Total Soda	400,000	406,676	71,147	2,729	4,826	-----
Total Groundwood	1,325,000	1,483,865	30,000	-----	34,218	38,930
Total ² Other Pulps	150,000	142,483	15,000	7,517	1,125	95

*Source: United States Pulp Producers Association.

¹As reported to the United States Pulp Producers Association by 90 per cent of the industry's productive capacity and estimated for 10 per cent.

²Includes miscellaneous grades for which no classifications are shown.



Photograph by Kenneth Brown, courtesy of Weyerhaeuser Timber Co.

GUNS FOR PROTECTION of Pacific Coast Forests ∴ ∴ ∴ Fire is the greatest destroyer of the potential employment hidden in American forests ∴ ∴ ∴ Pacific Coast logging operators, together with private and public agencies, are alert guardians of the future jobs of thousands of Americans through their constant fire protection work ∴ ∴ ∴ This battery of portable fire pumps, on a logging railroad flat car in the timber, is ready for instant service ∴ ∴ ∴ Strapped on the backs of men these weapons of conservation can be quickly transported to the scene of the fire.

The Wood Pulp Situation

● The American wood pulp producers entered the year hopeful that the worst was over and that an upturn in the demand for pulp would strengthen the price structure before the first quarter ended. But improvement did not materialize until late in August.

From a high of \$70 per ton for American bleached sulphite pulp in the latter part of 1937 and a top of \$60 for unbleached sulphite the prices had slid down to \$50 for bleached and \$40 for unbleached in the last quarter of 1938. The domestic producing mills continued these prices for the first quarter of 1939. The price decline was brought about by the curtailed demand for pulp plus the depreciation of Swedish, Finnish and Norwegian currencies.

In the January, 1939, issue PACIFIC PULP & PAPER INDUSTRY published a detailed article entitled, "Unbalanced Foreign Exchange Affecting Employment in American Wood Pulp Industry," which was widely quoted throughout the country. In this article it was stated that, "Decline of pulp prices is more damaging to America than to foreign producers."

Quoting, "On January 3, 1938, the price of bleached sulphite pulp was \$60 in the United States. On January 3, 1939, the price had declined to \$47, a drop of \$13 per ton. (This was the approximate price of foreign bleached although

quoted at \$50.—Ed.) The American pulp mills selling on the market suffered the full force of this drop.

"However, due to the decline in the value of the Swedish kronor against the dollar, Swedish pulp mills lost but \$8.37 per ton on sales in the United States, which gives them an advantage of \$4.63 per ton over their American competitors.

"Likewise, the Finnish pulp producers lost but \$9.08 instead of the full \$13 because of the drop in the value of the Finmark against the dollar, which gives them an advantage of \$3.92 over the American wood pulp mills who produce pulp for sale in the United States." In other words the Swedes and the Finns were enabled, through their depreciated currencies, to sell bleached sulphite at from \$46 to \$47 per ton and still obtain the equivalent in their own currencies of \$50-\$51 per ton. Likewise, they could sell unbleached sulphite for \$37 per ton in the United States and receive the equivalent in their currencies of \$40 per ton.

This situation, which had begun in the Fall of 1938, became progressively more serious for American pulp mills who were endeavoring to keep their employees working. It was unprofitable to operate and unprofitable to shut down. Efforts were begun to obtain relief through Congressional action. It was apparent that some form of protection

was badly needed and the industry preferred an automatic countervailing duty to do no more than offset the depreciation of the Scandinavian currencies. The idea was to keep the domestic pulp producers competitive with the foreign manufacturers. Few if any thought of requesting an actual duty.

With the paper and board industries showing signs of recovery the domestic pulp industry was receiving none of the benefit. Early in February the Canadian government acted to prevent the dumping of foreign pulp in Canada. Canada, always an exporter of pulp, had removed the tariff on imports of wood pulp from the United States in a gesture of friendship clause in the American-Canadian Reciprocal Trade Agreement. On the most-favored-nation treaty basis this gave the same rights to the Scandinavian countries and foreign pulp showed signs of entering Canada in competition with home produced pulps. The Canadian government did not wait for the situation to become serious. Customs collectors were ordered to inform importers of foreign pulp that the pulp might be subject to an anti-dumping tax if the investigation of foreign values, then underway by Canadian customs men, might later show the pulp was being dumped.

On April 13th, 1939, Canada established the following minimum values for wood pulp of European

UNITED STATES WOOD PULP SHIPMENTS AND STOCKS 1939

(In tons of 2,000 pounds)

Grade—	Wood Pulp Shipments		Wood Pulp Stocks on Hand	
	Domestic Market ¹	Exports ²	December 31, 1939	
			For Own Use ³	For Market ¹
Sulphite—				
Bleached	426,447	71,475	7,192	46,959
Unbleached	202,438	40,915	11,724	19,969
Total	628,885	112,390	18,916	66,928
Sulphate—				
Bleached	73,408	8,285	10,930	4,864
Unbleached	61,955	14,816	12,962	4,797
Total	135,363	23,101	23,892	9,661
Soda	86,591	4,013		
Special and Off Quality	14,293	0	940	1,896
Groundwood	29,798	0	36,786	396
TOTAL	894,930	139,504	80,534	78,881

Source: United States Pulp Producers Association.

¹As reported to the United States Pulp Producers Association by all independent pulp companies and by all but a few self-contained companies which sell small quantities of their surplus pulp.

²Bureau of Foreign & Domestic Commerce, U. S. Department of Commerce.

³As reported to the United States Pulp Producers Association by 85 per cent of the industry.

origin, in Canadian funds for entry purposes. Unbleached sulphate pulp \$36.00; bleached sulphate, \$50.00; unbleached sulphite, \$36.00; bleached sulphite, \$46.00; and, bleached soda pulp, \$46.00.

These prices were for a ton of 2,000 pounds, air dry weight and f.o.b. point of production. The order stated that "If the sales value of woodpulp imported is below the minimum values that have been set, such importations will be subject to dumping duties equal to the difference between the selling price and the minimum values for import that have been established." The regulations did not apply to pulp of United States origin.

In this simple manner any potential raids on the Canadian pulp market by Scandinavian pulp producers were forestalled.

Representatives in Congress from the wood pulp producing states were fully acquainted with the serious situation of the pulp mills and several of the members of the House and Senate favored making an effort to put pulp imports on a quota basis. The sawmill, pulp and paper unions all passed resolutions asking relief of Congress for there lay the only possible relief.

In March the United States Pulp Producers Association filed charges with Secretary of the Treasury, Henry Morgenthau, Jr., charging that foreign wood pulp was being dumped on the United States market in violation of the Anti-Dumping clause in the Tariff Act of 1921. The Bureau of the Customs initiated an investigation of the costs of production and the sales prices of pulp in foreign producing countries.

Commissioner of Customs J. H. Moyle, wrote on June 16th, 1939, to Congressman Martin F. Smith of Washington in part as follows:

"Investigations are now under way in Europe for the purpose of ascertaining definitely whether or not wood pulp from any of the European countries has been or is being imported into the United States at so-called dumping prices and, at the same time, the officials of the Treasury Department are engaged upon a study of the possibility of injury to the domestic industry by reason of the importation of foreign wood pulp at low prices. As was pointed out to you in this Bureau's letter of March 31st, it is necessary, before a finding of dumping may be issued, to establish that an industry in the United States is being or is likely to be injured, by reason of the importation of foreign merchandise and also that such foreign merchandise has been or is

being imported at so-called dumping prices.

"Although it is expected that the investigation into the alleged injury to the domestic industry may be concluded within the near future it is not believed that the foreign value investigation will be completed for another month or two."

By way of explanation, the Anti-Dumping Act of 1921 defined dumping of foreign merchandise in the United States roughly as selling below the selling price for the same merchandise in the country of origin, or selling in the United States at a price below the foreign cost of production.

The obvious defect, say a large number of men familiar with the problem, is that the Anti-Dumping Act of 1921 relies upon foreign costs and foreign selling prices as the basis for determining dumping. They say it is also obvious that American costs should be the basis for determining whether or not a foreign product is being dumped in the United States.

In July Senator Lewis B. Schwellenbach of Washington urged Secretary Morgenthau to rush the investigation and to act to prevent the dumping of foreign wood pulp. Senator Schwellenbach was quoted

PACIFIC COAST PULP PRODUCTION—1926-1939

Pacific Coast States and British Columbia
(Tons of 2,000 lbs.)

	1926 Tons	1927 Tons	1928 Tons	1929 Tons	1930 Tons	1931 Tons	1932 Tons
Washington	199,164	268,349	349,107	523,948	566,137	580,016	420,529
Oregon and California	178,841	200,869	213,407	256,546	248,952	237,532	187,133
British Columbia	259,504	296,253	310,961	304,619	335,429	310,029	259,586
Total Pacific Coast	637,509	775,471	873,475	1,085,113	1,150,518	1,127,577	867,248
	1933 Tons	1934 Tons	1935 Tons	1936 Tons	1937 Tons	1938 Tons	1939† Tons
Washington	583,770	709,380	775,722	895,797	1,184,390	836,959	1,107,318
Oregon and California	189,332	240,167	262,221	302,634	338,802	250,788	270,829
British Columbia	343,897	383,818	377,522	416,433	425,558	242,020	331,500
Total Pacific Coast	1,117,999	1,333,365	1,415,465	1,614,864	1,948,750	1,329,767	1,709,647

Source—U. S. figures up to and including 1933, from U. S. Dept. of Commerce, Bureau of Census; B. C. figures from Dept. of Lands, Forest Branch; and Dominion Bureau of Statistics.

† Figures based upon United States Pulp Producers Association total for Oregon and Washington, excepting soda pulp. Addition of soda pulp production and division of products between Oregon and Washington estimated by Pacific Pulp & Paper Industry. No wood pulp production in California.

PULP WOOD CONSUMPTION—1926-1939

Pacific Coast States and British Columbia

	1926 Cords	1927 Cords	1928 Cords	1929 Cords	1930 Cords	1931 Cords	1932 Cords
Washington	305,787	455,664	651,657	956,132	1,000,001	1,025,878	688,326
Oregon and California	232,989	267,233	308,264	340,745	351,053	319,876	265,470
British Columbia*	318,500	364,000	383,008	352,444	373,397	363,688	304,185
Total Pacific Coast	857,276	1,076,899	1,342,929	1,649,321	1,724,451	1,709,442	1,257,981
	1933 Cords	1934 Cords	1935 Cords	1936 Cords	1937 Cords	1938 Cords	1939† Cords
Washington	1,094,852	1,203,516	1,324,356	1,509,340	2,169,717	1,450,016	1,915,660
Oregon and California	241,841	322,287	369,327	423,839	511,419	342,229	468,534
British Columbia*	375,450	428,287	421,393	452,143	465,478	259,545	364,650
Total Pacific Coast	1,712,143	1,954,092	2,115,076	2,385,322	3,146,614	2,051,790	2,748,844

Source—U. S. figures from U. S. Dept. of Commerce, Bureau of Census; B. C. figures from Dept. of Lands, Forest Branch; and Dominion Bureau of Statistics.

* British Columbia figures prior to 1928 are not shown separately and are estimated on basis of 1.23 cords of wood consumed per ton of wood pulp produced.

† Estimated.

in the press as saying that foreign bleached sulphite was being sold on the Atlantic seaboard as low as \$42 per short ton and unbleached sulphite was being sold for \$32, which prices are below the cost of production in the United States. The senator was also quoted as saying that 50 per cent of the domestic pulp industry's capacity was now idle due to the foreign dumping.

On June 29th Congressman Martin F. Smith of Washington introduced a bill into the House of Representatives providing for a tariff of \$10 per short ton on chemical pulp. The basis was one-half of one per cent per pound gross weight. The bill, H. R. 7034, was referred to the Ways and Means Committee.

The pulp industry thought that possibly the Treasury Department had finally decided to enforce the Anti-Dumping Act when, on July 29th, the Secretary of the Treasury, through the Bureau of Customs, authorized the issuance of suspicions of dumping orders against imports of British Columbia bleached sulphite pulp if the declared value were less than the foreign market value of \$45 per ton. This was \$1 per ton under the minimum set by the Canadian government in April for the base price of bleached sulphite.

The order affected the product of but one company, the British Columbia Pulp & Paper Company of

Vancouver, B. C. The effect was to require the posting of a single entry bond with each shipment of pulp into the United States. The collector of customs for District No. 30, embracing the State of Washington, issued an order requiring the posting of a single entry bond of \$10 per ton on British Columbia bleached sulphite pulp entering the United States through his district.

The reaction of the United States industry to this sudden order against one company and in one customs district was natural.

"What good will it do," they asked, "to require a bond on imports from British Columbia when far more bleached sulphite is coming in from Sweden, Finland and Norway together, than enters from all of Canada?"

The Customs was following the technical procedure of the Anti-Dumping Act. A customs appraiser had found what he considered to be evidence of dumping and under the act he had authority to issue a suspicion of dumping order for his own district. This action initiated an investigation. The appraiser acted because he found bleached sulphite entering at declared values below the minimum price set for the sale of bleached sulphite in Canada by the Canadian government.

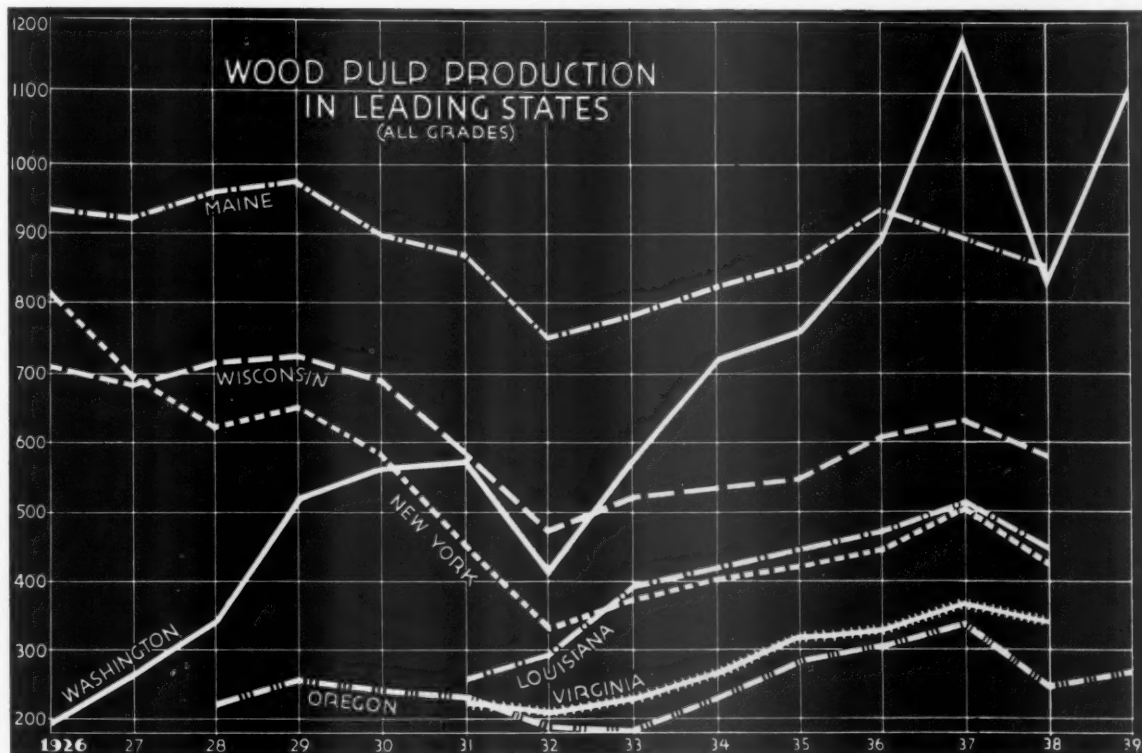
The investigation was carried on by the Treasury and in November Secretary Morgenthau announced

that no dumping had been found, thus clearing the British Columbia Pulp & Paper Company and once more relegating the Anti-Dumping Act into the background as a potential protector of the United States pulp industry.

Late in July the late Senator William E. Borah took up the fight in behalf of the domestic pulp industry and the employment of Americans by introducing a resolution ordering the Tariff Commission to investigate the pulp situation. Senator Borah asked for a report by January 15, 1940, to follow up a similar report which the Senate had requested on August 24, 1935, following his introduction of a similar resolution at that time. The Tariff Commission replied it could not get the necessary data together by January so the resolution was changed to request the report by April 15, 1940.

The Borah Resolution read as follows:

● "Resolved, That the United States Tariff Commission, under authority conferred by section 332 of the Tariff Act of 1930, is directed to investigate and report to the Senate all facts relating to wood pulp or pulpwood, showing the volume of importations, compared with domestic production and the conditions, causes, and effects relating to foreign competition, and all other facts showing the differences in, or



Source: Data through 1938 from U. S. Bureau of Census. Production of Washington and Oregon in 1939 estimated by Pacific Pulp & Paper Industry from total Pacific Coast 1939 pulp production released by the United States Pulp Producers Association.

PACIFIC COAST STATES
and British Columbia
Paper and Paperboard Production
(Tons 2,000 lbs.)

State—	1933	1934	1935	1936	1937	1938	1939
Washington	381,997	418,115	465,708	506,579	546,227	472,185	557,178†
Oregon	197,970	220,684	242,085	262,478	273,630	234,879	277,157†
California	167,033	169,709	221,763	265,662	278,650	242,533	286,189†
British Columbia	260,599	299,502	299,816	320,555	320,920	222,305	267,412
Total Coast Production	1,007,599	1,108,010	1,229,372	1,355,274	1,419,427	1,171,902	1,387,936

Bureau of the Census, Dept. of Commerce. British Columbia figures from the Dept. of Lands, Forest Branch.

† 1939 Washington, Oregon and California production estimated on basis of national average increase from 1938 production.

which affect competition between, the production of wood pulp or pulpwood in the United States or that imported in the principal markets of the United States. Such report to be made to the Senate not later than April 15, 1940."

The Senate adopted the resolution but the Tariff Commission has made no report. This will be explained in the light of subsequent events. Senator Borah's idea was to get at the root of the problem by bringing all facts to light.

The Smith Anti-Dumping Bill

● A proposed amendment to the Anti-Dumping Act of 1921 was introduced in the House of Representatives on July 20, 1939, by Representative Martin F. Smith of Washington. Known as H. R. 7312, it proposed to correct the weaknesses of the original act, which had become apparent in the intervening years.

As was pointed out earlier in this article the Anti-Dumping Act was ineffective in part because of the definition of dumping being based upon foreign cost of production or foreign selling prices, that is the

cost or sales price in the country of origin.

Representative Smith's proposed amendment eliminated the foreign cost and sales price as the standards for determining what constituted dumping, and substituted the American cost as the yardstick by which the selling prices in this country of foreign made merchandise should be measured. The idea was obviously sound and fair to our own people and also to all foreigners selling in the United States. The bill was referred to the Committee on Ways and Means and was scheduled to come up when Congress assembled again on January 15, 1940.

In the August, 1939, issue of this journal appeared the following comment on Representative Smith's bill. "This is a job creating measure first and last. Certainly there is every reason at this time to try and find jobs for highly paid American workmen. Congress has legislated high wages which makes it absolutely essential to provide, sooner or later, the type of protection given by Representative Smith's amendment. What good is the Wage and Hours

Law, the other legislation protecting the wages of American workmen and workwomen, if foreign goods so undersell our own that there are fewer jobs in this country. High wages and protection against products from low wage paying foreign nations go hand-in-hand. They are inseparable."

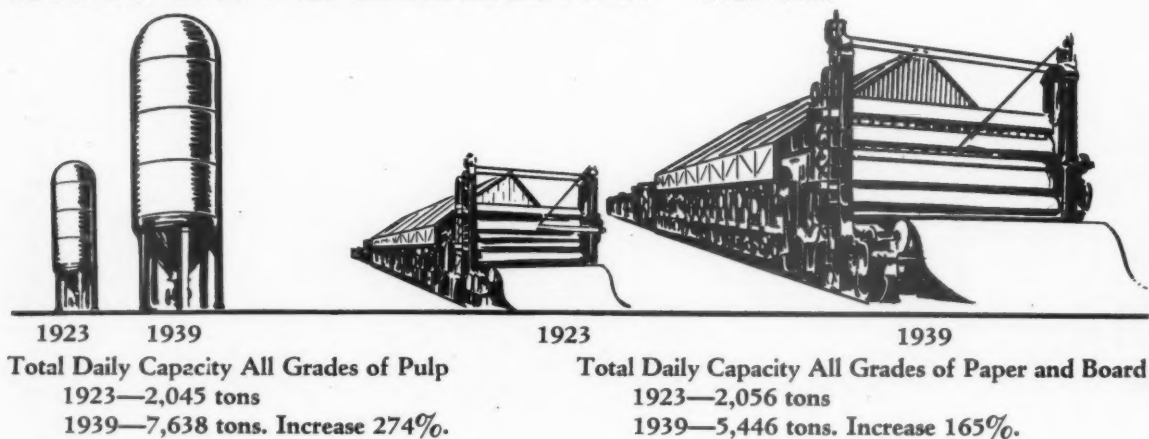
The War's Effect on Pulp

Rumblings of possible war in Europe turned buyers of wood pulp toward domestic sources. The inquiries received by pulp mills increased all through August reaching the wire and telephone stage just prior to the outbreak of war on September 2nd.

The downward trend in pulp prices immediately stopped. Orders poured into the offices of domestic pulp mills. Buyers asked how much tonnage they could have for the balance of 1939 and for 1940. Statistics were sought out and studied in an effort to see what would happen to the paper mills if the supply of wood pulp from Europe was curtailed or entirely cut off.

The statistics showed that in 1938 68.3 per cent of all our pulp imports

COMPARATIVE GROWTH Of PACIFIC COAST PULP and PAPER INDUSTRY — 1923-1939



came from Europe and 66 per cent came from Scandinavia, Sweden, Norway and Finland. Freight rates from the Baltic to the United States started to climb. War risk insurance increased in cost. The government of Sweden on September 11th added wood pulp to the list of products requiring licenses for export. The American Scantic Line cancelled all its shipping to and from Scandinavia. The Pacific Coast European Conference decided to leave the rates to Sweden open with the understanding they would be raised from 60 to 100 per cent.

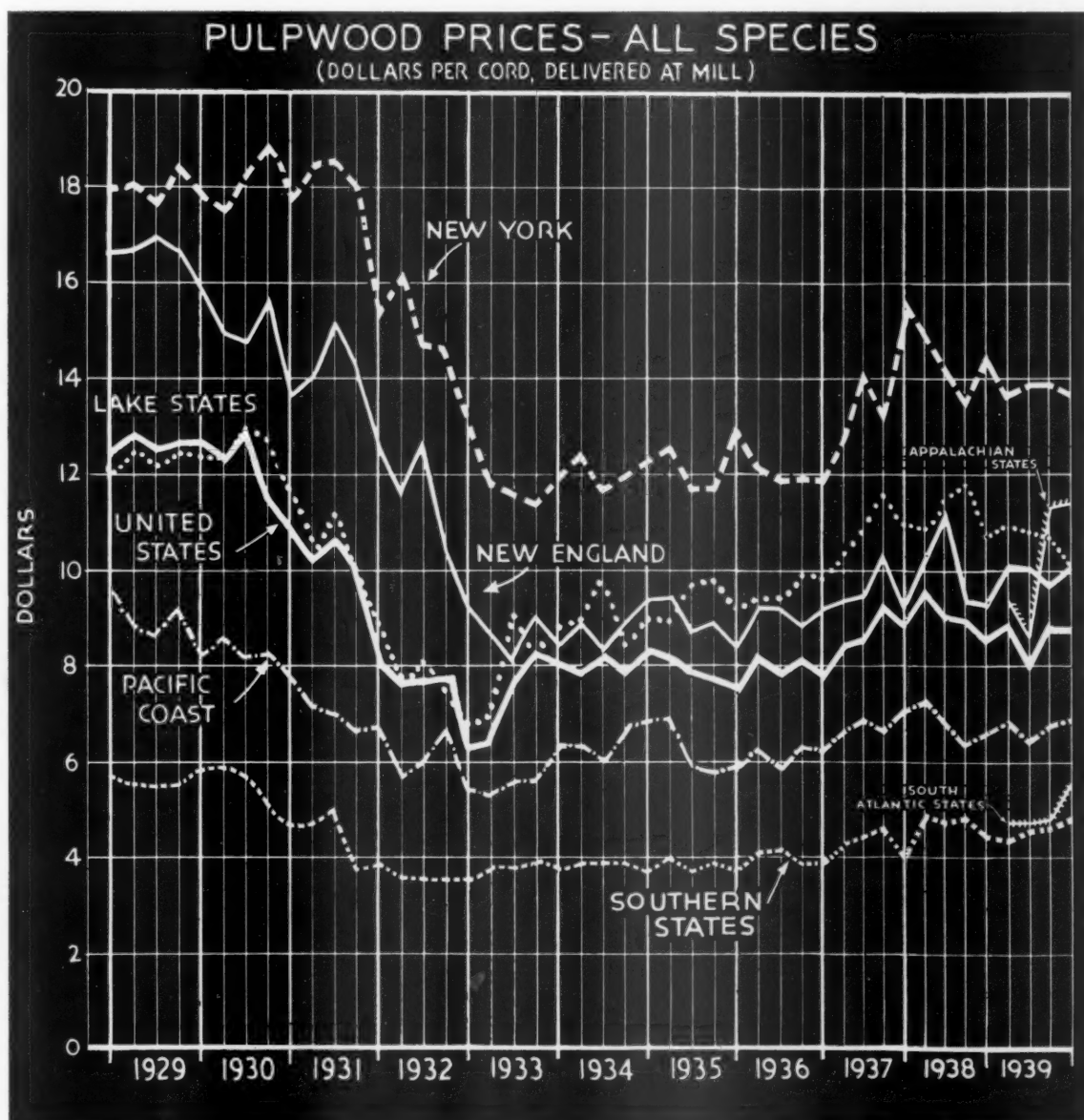
Domestic Prices Remained Firm

• United States producers of sulphite pulps did not raise their prices but adhered to the schedule of \$50 per ton for bleached and \$40 per ton delivered Atlantic ports for unbleached for the balance of 1939. Producers of kraft pulp in the South raised their prices several dollars per ton.

The sulphite producers recognized the position of their customers and of those seeking to become customers. The pulp mills must of necessity keep their buyers in a position fully competitive with the self-contained pulp and paper mills. Prices, they believed, should be

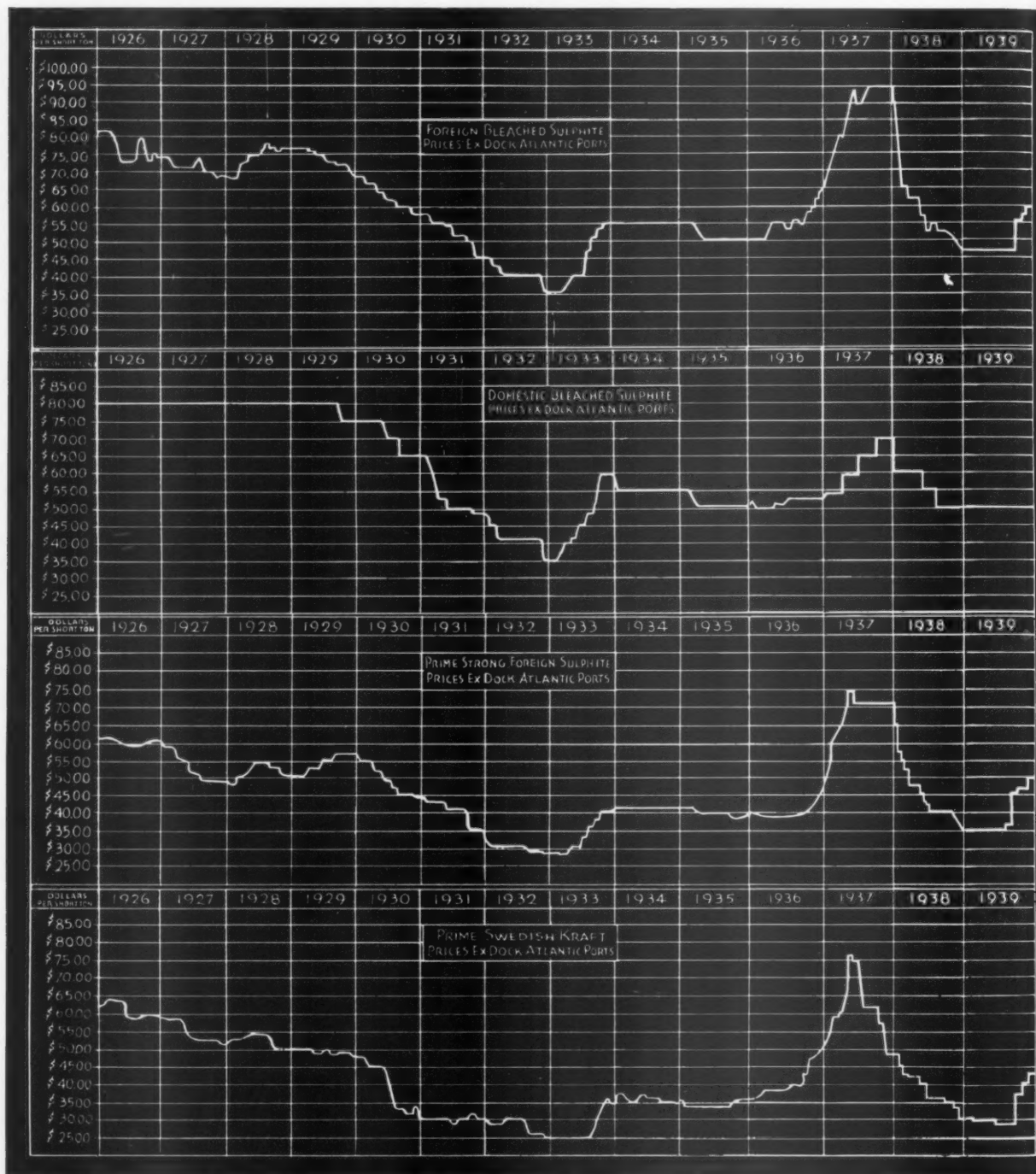
raised mainly on the basis of increasing costs. These were already going up. Hemlock logs rose in September from \$9 to \$12 per thousand board feet on Puget Sound and other costs were showing rising tendencies.

The paper mills buying pulp were fortunate that an excess pulp producing capacity existed in the United States at the time war broke out. Had it not been for the expansion of the pulp industry on the Pacific Coast and in the South during the past decade the converting paper mills would have been faced with elimination through inability to obtain sufficient raw material.



Source: American Paper & Pulp Association.

Wood Pulp Prices--1926-1939



In an article on the subject appearing in the September, 1939, issue of this journal the following statement was made.

"As a matter of self-interest the executives of American paper mills ought to seriously consider the following facts. If the full effect of de-

preciated currencies (without any tariff protection), the higher cost of American labor and dumping practices of foreign pulp producers, were a normal condition these pulp mills on the Pacific Coast and in the South would not be in existence and ready to assist the converters now

that their European sources are cut off. Had these conditions been the normal situation the American pulp mills could not have been built. Their construction would have been an impossibility."

It was apparent that the war would have a far greater effect on

WOOD PULP PRICES IN U. S.

Year—	Domestic Bleached Sulphite	Foreign Bleached Sulphite	Foreign Strong Sulphite	Swedish Kraft	Domestic Bleached Soda
1928	\$80	\$68 — \$78	\$48—\$55	\$50 — \$55	—
1929	75— 80	68 — 77	50— 56	47 — 50	—
1930	65— 75	57 — 68	42— 56	30 — 47	—
1931	45— 65	43 — 57	32— 43	28 — 31	—
1932	35— 45	35 — 43	27— 32	25 — 30	—
1933	35— 60	35 — 57	27— 43	25 — 37	\$40—\$50
1934	55— 60	55 —	42—	33 — 38	50
1935	50— 55	50 — 55	37— 42	33 — 36	50
1936	50— 53	50 — 65	38— 50	36 — 50	50— 54
1937	54— 70	65 — 95	50— 75	47 — 76	54— 65
1938	60— 50	90 — 50	70— 36.50	47.50— 31.50	58— 51
1939	50	47.50— 60	36— 50		

Monthly price movement, 1939—

January	\$50	\$50	\$36.50	\$31.50—\$30	\$51
February	50	50	36.50	30	51
March	50	50	36.50	30	51
April	50	50	36.50	30	51
May	50	50 — 47.50	36	30 — 28	51
June	50	47.50	36	28	51
July	50	47.50	36	28	51
August	50	47.50	36 — 38	28	51
September	50	47.50— 56.50	38 — 46	28 — 37.50	51
October	50	57	46	40	51
November	50	57 — 57.50	46 — 47.50	40 — 41.50	51
December	50	57.50— 60	47.50— 50	41.50— 42.50	51

the American pulp and paper industry than did the World War of 1914 for our imports of wood pulp are three times larger than they were in 1914. Total wood pulp imports in 1914 were 675,600 short tons as compared with 1,710,514 short tons in 1938 and 2,026,297 short tons in 1939.

The Domestic Supply of Wood Pulp

● The supply and demand situation was analyzed early in September by the United States Pulp Producers Association. Their table was published in the September issue of PACIFIC PULP & PAPER INDUSTRY. The table showed that the United States had sufficient wood pulp productive capacity to meet all domestic requirements in all grades except unbleached sulphite.

Since the end of 1939 the Association has issued a booklet containing a series of graphs showing the consumption, capacity production, im-

ports and exports of all grades of pulp in 1939 and the reader can quickly determine the position of the United States from a study of these graphs which are reproduced in this Review Number.

The factor not taken into consideration in the table prepared last September was that of exports. The exportation of wood pulp has assumed more and more importance in the entire picture since the war began, particularly since April 9th when Norway was invaded by Germany. At the time this is written, the middle of May, it is apparent that the export demand for wood pulp is going to bid up the price of pulp sold in the United States. The amount of pulp exported during the last six months of 1940 will depend largely upon the willingness of the American buyers to meet the price offered by foreign buyers who are in a tight situation due to their complete dependence upon Scandinavian pulp. That old fashioned law

of supply and demand is back at work again. Domestic producers of wood pulp always prefer to sell the major portion of their output within the borders of the United States, but they can hardly be expected to accept a domestic price as much as \$20 per ton below that offered by foreign buyers.

The Pulp Industry's Position

● Returning to the situation as it existed in August and September. In view of the fact that wood pulp enters this country duty-free and also in view of the reasonable expectancy that foreign pulp will raid the American market when the European war is ended, three letters printed in our September, 1939, issue are reprinted here to show clearly the vital importance of protecting ourselves now against potential disaster in the future.

United States Pulp Producers Association

122 East 42nd Street
New York, N. Y.

August 31, 1939.

To Converting Paper Mills, Gentlemen:

Recent correspondence and statements appearing in the press, regarding the activities of the United States Pulp Producers Association, are such that it seems timely for us to restate our objectives, to indicate clearly what we are NOT trying to do, and to present proposals for mutual consideration by buyers and sellers of wood pulp.

The objectives of the Association's recent activities have been twofold:

1—To stop the "dumping" of foreign pulps into the United States.

2—To protect the domestic paper and pulp industry against depreciated European currency competition.

In line with those objectives, the United States Pulp Producers Association requested an investigation of all cases of suspected "dumping" of foreign pulps and has studied the problems presented by depreciated European currencies.

We are NOT trying to get a duty on pulp, nor to restrict the free entry of pulp through quota regulations or revenue tax legislation. The Association has not been responsible for the introduction of any legislation whatsoever. It played

PULPWOOD PRICES F.O.B. MILL BY REGIONS
ALL SPECIES

(Dollars per Cord of 128 Cubic Feet)

1939

Quarter	U. S. Total	New England	New York	Lake States	Appalachian States	Atlantic States	Southern States	Pacific Coast
1st	\$8.84	\$10.18	\$13.57	\$10.96	\$9.43	\$4.71	\$4.38	\$6.82
2nd	8.00	10.07	13.89	10.86	8.58	4.64	4.58	6.43
3rd	8.90	9.83	13.80	10.71	11.33	4.74	4.52	6.81
4th	8.89	10.17	13.66	9.98	11.41	5.61	4.83	6.83

Source: American Paper and Pulp Association.

no part in the introduction of H. R. 7034, H. R. 7312 or S. Res. 160.

H. R. 7034 is now dead. The Association is not supporting H. R. 7312. As far as S. Res. 160 is concerned, we welcome the Tariff Commission's investigation in that it will enable the Commission to bring up to date the factual data contained in its 1938 report on this same subject.

We do not hold foreign producers or their agents solely responsible for the present deplorable condition of the pulp market. We believe that the domestic industry has been injured by the "dumping" of some foreign pulps in the United States and that our efforts to prevent such injury are not only fully justified but are also in the interest of both buyers and sellers of pulp.

On the other hand, we feel that, in one instance, some injustice has resulted from the Government's action in the blanket withholding of appraisals and the required posting of bonds on certain foreign pulps which are generally recognized as having been constructively merchandised. We are endeavoring to correct that situation.

The "protection activities" of this Association were not instigated, nor are they being supported, financially or otherwise, by self-contained mills. We recognize the fact that the domestic mills selling pulp in this market must depend mainly on the Converting Paper Mills of the United States for an outlet for their products; that as you prosper we prosper; and that anything which adversely affects your interests, directly and commensurately affects those which this Association represents—namely, and primarily, the domestic sellers of wood pulp.

Domestic sellers of pulp are not trying to dominate this market or to control the supply of pulp for the Converting Paper Mills. The actual relationship of domestic supply and demand is clearly indicated in the charts and statistics of the attached booklet, which we hope you will accept with our compliments.

We are convinced that the existing situation presents a unique opportunity to correct certain merchandising policies and practices of both foreign and domestic sellers, and that constructive discussion of mutual problems by the buyers and sellers of pulp might go far toward

U. S. Pacific Coast Wood Pulp Production, 1923-1939

	Tons of 2,000 lbs.
1923	299,596
1924	309,433
1925	322,594
1926	378,005
1927	449,218
1928	562,514
1929	780,494
1930	815,089
1931	817,548
1932	607,662
1933	773,102
1934	935,033
1935	1,011,421
1936	1,198,431
1937	1,523,192
1938	1,087,747
1939	1,384,147

British Columbia Wood Pulp Production, 1923-1939

	Tons of 2,000 lbs.
1923	217,076
1924	216,243
1925	230,733
1926	259,504
1927	296,253
1928	310,961
1929	304,619
1930	335,429
1931	310,029
1932	259,586
1933	343,897
1934	383,818
1935	377,522
1936	416,433
1937	425,558
1938	242,020
1939	331,500

bringing about reasonable and permanent improvement in the marketing of wood pulp.

We recognize the fact that there are always two sides to any question and are

prepared to cooperate with all concerned in an endeavor to find a mutually satisfactory solution of our common problems.

Sincerely yours,
(Signed) O. M. PORTER,

United States Pulp Producers
Association
122 East 42nd Street
New York, N. Y.

September 8, 1939.

Mr. John P. Burke, President
International Brotherhood of Pulp
Sulphite & Paper Mill Workers
163 Broadway

Fort Edward, New York

Dear Mr. Burke:

I have just been discussing matters of mutual interest with Mr. H. W. Sullivan and, in view of your imminent convention, want to bring you up to date as far as our protection program activities are concerned.

We had, and still have, the two following objectives:

1—To stop the "dumping" of foreign pulps in the United States;

2—To protect the domestic paper and pulp industry against depreciated European currency competition.

You know of our petitions to the Government for an investigation of suspected "dumping" of foreign pulps. The Treasury Department's preliminary investigation, through its Division of Monetary Research, resulted in a conclusion that the domestic industry might have been injured by foreign dumping in this market.

On the strength of that conclusion, their European agents have been trying to determine the foreign market values or foreign costs of production. So far as I know, no conclusions have as yet been reached by the Treasury Department as to whether or not foreign pulps have been sold in this market at less than their foreign market values. My opinion is, however, that their final conclusions will be that foreign pulps have NOT been sold here at less than they have been freely offered for sale in countries of origin, or at less than their other foreign markets' values or foreign costs of production.

BRITISH COLUMBIA

Pulp and Paper Exports

From All British Columbia Ports

(Compiled by Vancouver Merchants' Exchange—Short Tons)

Destination—	1931	1932	1933	1934	1935	1936	1937	1938	1939
Australia	11,835	15,314	14,685	26,053	26,026	42,876	18,810	34,237	46,335
Argentina	*	19,752	28,604	3,985					
Central and South America	22,637	6,404	12,693	7,314	2,867		2,628	2,041	**1,284
Canada (Eastern ports)	4,457	3,820	4,620	24,800	27,677	29,614	29,210	23,566	33,595
China	489	16,105	26,494	40,062	3,281	5,084	1,651	1,401	
Japan	78,631	59,959	100,257	93,212	155,530	131,795	83,764	14,236	27,181
New Zealand	5,363	4,251	4,254	2,845	3,206	5,289	2,331	1,343	1,880
United Kingdom	9,047	486	347	6,953	4,164	3,698	16,498	6,692	5,793
United States	157,943	130,771	117,733	128,224	123,343	175,861	205,981	134,331	199,737
Other Countries	458	731	4,984	11,611	4,989	3,171	12,015	6,123	10,067
Total Short Tons	290,860	257,724†	314,671	345,059	351,083	397,388	372,888	223,970	325,872

*Argentine shipments in 1931 and 1935 are included under Central and South America.

†Includes 131 tons of paper shipped from New Westminster, destination not available.

**Does not include Central America.

If this should prove to be the case, no further action would be taken by the Government, toward relief of the domestic industry from the dumping of foreign pulps in this market, under the present Antidumping Act.

The Government is withholding appraisals and requiring the posting of entry bonds on "German" pulps and British Columbia sulphite. I presume that from the Administration's point of view, Germany will continue to be kept "in the doghouse" for a long time and that therefore the entry of "German" pulps will be substantially reduced.

It seems likely that the Canadian Government will make strong representations to our Government to lift the restrictions against British Columbia's imports, under the provision of our Reciprocal Trade Agreement with Canada. It is hard to predict what the outcome of such action might be as we certainly have a dumping case against British Columbia.

As the result of our "protection activities," the importers of foreign pulps have successfully organized opposition to our efforts by domestic pulp buyers, to such an extent that there was commencing to be tangible evidence of a boycott of domestic pulps in favor of European pulps.

Fortunately, the War has changed that situation to such an extent that, in all probability, domestic demand will shortly justify full-capacity operation by all domestic mills. Furthermore, increasing war rate insurance and transportation costs, together with the physical difficul-

ties of bringing in foreign pulps, will undoubtedly result in substantial advances in the prices at which foreign pulps will be offered for sale here in the States.

Summing all this up therefore, it looks as though Mr. Hitler had given us at least a TEMPORARY answer to our dumping problems. His war seems, however, to have only further intensified the prospects of depreciated currency competition.

If imports from Central European countries are entirely eliminated; if the Baltic and North Seas are effectively blockaded and there should be substantial curtailment in the volume of Finnish pulp exports and increasing difficulty in exporting Swedish and Norwegian pulps; and if the domestic mills handle their relationships with domestic buyers intelligently, there is no question but that we will profit substantially from the present War and that many of the problems incident to part-time operation, slack employment and sales of pulp at destructively low prices (to meet foreign competition), etc., etc., will automatically be solved.

After the War, however, foreign shippers will make desperate efforts to regain their American markets and we may again expect vicious competition and "dumping" to an extraordinary degree. It therefore seems only reasonable for us "in time of peace to prepare for war." In other words, we shall most certainly need an EFFECTIVE antidumping act and protective depreciated currency legislation.

Careful study of the Smith Bill (H. R. 7312) has led to the conclusion, both as far as we are concerned and on the part of other national industries which have much more political influence than we have (lumber, agricultural and dairy products, etc., etc.), that it is impracticable as a piece of legislative machinery and impossible of passage, politically. Consequently, it seems advisable NOT to undertake any campaign for the passage of THIS proposed amendment to the present Antidumping Act.

We are quite in sympathy with the PRINCIPLE of the Smith Bill: namely, domestic costs as a basis for anti-dumping

BRITISH COLUMBIA

Review of Pulp and Paper Production 1919-1939

	—PULP—		Tons	—PAPER—	
	Sulphite	Sulphate		News Print	Other
1939	.....	.....	.....	216,542	50,870
1938	.....	.....	.....	176,639	39,348
1937	.....	.....	.....	264,000	53,000
1936	.....	.....	.....	276,710	41,443
1935	.....	.....	.....	262,123	33,287
1934	130,176	15,630	209,359	267,406	26,777
1933	122,265	15,715	185,431	237,107	23,492
1932	85,419	10,889	161,502	205,050	24,051
1931	124,521	11,744	170,432	217,562	17,709
1930	130,462	13,055	172,539	224,928	20,446
1929	112,925	15,647	151,066	201,009	19,492
1928	120,413	15,050	170,005	225,477	15,960
1927	119,005	13,700	163,548	214,010	13,745
1926	108,381	15,000	136,123	176,924	10,389
1925	92,514	16,856	121,363	148,201	9,261
1924	89,839	14,403	112,001	136,281	9,653
1923	99,878	9,932	107,266	142,928	7,709
1922	86,894	9,674	100,759	124,639	7,945
1921	68,502	6,519	89,725	110,176	6,934
1920	92,299	16,380	108,655	136,832	9,792
1919	80,347	9,473	99,769	123,607	7,202

	Total Production All Grades—Tons		Estimated value of production:
	Pulp	Paper	
1939	331,500	267,412	\$17,495,600
1938	249,000	219,000	14,562,479
1937	423,558	320,920	21,625,305
1936	416,433	320,555	19,012,369
1935	377,522	299,816	10,708,145
1934	383,818	299,502	10,347,123
1933	323,431	260,599	10,852,000
1932	259,586	228,075	11,156,000
1931	310,029	244,397	13,508,000
1930	316,056	245,374	16,520,000
1929	279,638	220,501	14,400,000
1928	305,468	241,437	16,755,000
1927	296,253	227,755	18,505,000
1926	259,504	187,313	16,315,000
1925	230,733	157,462	14,466,000
1924	216,243	145,934	13,938,000
1923	217,076	150,637	15,018,000
1922	197,327	132,584	12,590,000
1921	164,746	117,110	13,500,000
1920	217,334	146,624	.....
1919	189,589	130,809	.....

Source—British Columbia, Department of Lands, Report of the Forest Branch.

TOTAL WOOD PULP. ALL GRADES

(IN TONS OF 2 000 POUNDS)

*CAPACITY 9.941.339	
CHEMICAL PULPS 7.655.089 77%	GROUNDWOOD 2.286.250 23%
CONSUMPTION 8.993.705	
CHEMICAL PULPS 7.315.751 81%	GROUNDWOOD 1.677.954 19%
PRODUCTION 7.107.000	
CHEMICAL PULPS 5.657.000 79%	GROUNDWOOD 1.450.000 20%
IMPORTS 2.026.209	
CHEMICAL PULPS 1.798.255 89%	GROUNDWOOD 227.954 11%
DOMESTIC SALES 873.930	
CHEMICAL PULPS 844.132 96%	GROUNDWOOD 29.798 3%
EXPORTS 139.504 CHEMICAL PULPS 100%	

*Based: Chemical pulps 351 days. Groundwood pulp 300 days.
United States Pulp Producers Association.

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TOTAL SULPHITE PULP

(IN TONS OF 2,000 POUNDS)			
CONSUMPTION 2,992,563			
BLEACHED 1,632,388	54½%	UNBLEACHED 1,360,175	45½%
CAPACITY 2,857,504			
BLEACHED 1,804,783 63%		UNBLEACHED 1,052,721 37%	
PRODUCTION 1,970,000			
BLEACHED 1,230,000 62½%		UNBLEACHED 740,000 37½%	
IMPORTS 1,134,953			
BLEACHED 473,863 42%		UNBLEACHED 661,090 58%	
DOMESTIC SALES 628,885			
BLEACHED 426,447 68%		UNBLEACHED 202,438 32%	
EXPORTS 112,390			
BLEACHED 71,475	63½%	UNBLEACHED 40,915	36½%

United States Pulp Producers Association.

protection. What we are going to do, therefore, is to try to develop, through our own attorneys and in cooperation with the industries referred to above, a PRACTICAL bill to amend the present Antidumping law, which, if possible, will include some provision for protection against depreciated currency competition.

It seems to me that Organized Labor could best serve its own interests and most effectively cooperate with us, if its Washington representatives, who are well qualified to do so, would independently undertake to draft some practical amendment to the present Antidumping law which could then be considered by our group and the other interests involved, while at the same time we could submit to your attorneys our ideas for such legislation and thus, eventually, all of us would be enabled to agree upon a Bill to amend the present Antidumping Act which could receive nation-wide support and for the passage of which we could all work together most effectively.

We do not have the slightest intention of discontinuing efforts to obtain protection from the "dumping" of foreign pulp in this market and from depreciated

currency competition. We welcome your help because our problems are common in these matters, and I think that if what I have suggested above meets with the approval of those who are responsible for the activities of Organized Labor we should be able to work out plans now for effective protection against foreign competition, with which we will unquestionably be assaulted as soon as the War is over.

Sincerely yours,
(Signed) O. M. PORTER.

● Senator Lewis B. Schwellenbach of the State of Washington clearly outlined the case of the American wood pulp producers in a letter to Secretary of the Treasury, Henry Morgenthau, Jr., on July 7th, 1939.

In his letter Senator Schwellenbach brings out several points which are of vital importance to the American pulp industry. He calls Secretary Morgenthau's attention to the foreign practice of "marrying" con-

1939

BLEACHED SULPHITE PULP

(IN TONS OF 2,000 POUNDS)			
CAPACITY 1,804,783			
PAPER GRADES 1,469,227	81½%	RAYON 335,556	18½%
CONSUMPTION 1,632,388			
PAPER GRADES 1,433,361 88%		RAYON 199,027 12%	
PRODUCTION 1,230,000			
PAPER GRADES 1,070,795 87%		RAYON 159,205 13%	
IMPORTS 473,863			
PAPER GRADES 385,809	81½%	RAYON 88,054	18½%
DOMESTIC SALES 426,447			
PAPER GRADES 319,687 75%		RAYON 106,760 25%	
EXPORTS 71,475			
PAPER GRADES 23,243	32½%	RAYON 48,232	67½%

United States Pulp Producers Association.

tracts and to the fact that the declared value as given to the U. S. Customs represents the average value after "marrying" and does not reflect the true low price at which much pulp was sold.

The Senator's letter is reproduced here with permission.

July 7, 1939.

The Honorable Henry Morgenthau Jr.,
Secretary of the Treasury,
Washington, D. C.

My dear Mr. Secretary:

On March 20, 1939, and May 24, 1939, the United States Pulp Producers Association presented to you a request and supplemental request concerning the dumping of wood pulp in the United States by foreign producers. The purpose of this letter is to urge upon you as expeditious handling of this problem as is possible. During the past few years we have had established in the State of Washington a number of pulp plants. The question involved is of very definite importance to me.

As I understand it, the Association's complaint is that bleached and unbleached Sulphite and bleached Sulphate (Kraft) pulps are being entered into the United States from foreign countries generally, in violation of the provisions of the Act of May 27, 1921 (U.S.C. Sects. 160 to 171), known as the Anti-dumping Act, and with resultant serious injury to the domestic wood pulp industry.

The action requested by the Association is that you investigate the alleged "dumping" of foreign pulps in this market and that, on the basis of the specific instances of "dumping" and the conclusive evidence of resultant injury to the domestic industry presented in support of the Association's petitions of March 20th and May 24th, you withhold appraisals and require the posting of bonds covering entry of such pulps, in all cases of suspected dumping, prior to the completion of your investigations of foreign values and injury to the domestic industry.

The reason for the request is that

foreign pulp producers sell on long-term contracts at fixed prices subject to adjustment through the "marrying" of such contracts at lower prices in return for further tonnage commitments. This practice tends to result in the establishment of present market levels as the basis of competitive selling for the next two or three years and deprives the American pulp producers of opportunities to sell the accounts "tied up" by these long-term, low-priced foreign contracts.

Because of the volume of foreign pulp imports (nearly three-fourths of all the pulp which is sold in the United States being of foreign origin), the price of pulp in the United States is governed largely by the foreign producers whose present prices are now below the American cost of production. The sale of foreign pulps at these ruinous prices results in the enforced curtailment of domestic production, loss of employment by American labor and the serious crippling of the domestic wood pulp industry.

Consequently, relief from present

dumping must be obtained NOW if continuing and increasing injury to the domestic industry is to be avoided.

I understand that there has been submitted to you evidence of dumping which evidence is in the form of letters, telegrams and price quotations. Because of the agreement between the Association and its members that such information will be kept confidential except as to you, I do not have the direct evidence on this point. However, in going over the situation generally with representatives of the Association, I am convinced that they have sufficient evidence to sustain their position.

By taking full advantage of both direct and indirect subsidies, low labor and ocean freight rates, depreciated currencies, etc., prices of foreign pulps sold in the United States have been progressively reduced more than 50 per cent during the past year or so, until now foreign bleached Sulphite is being sold at least as low as \$42 per short ton ex-dock Atlantic seaboard, and unbleached Sulphite at \$32—prices substantially below the costs of even the most modern and effi-

1939

PAPER GRADES - BLEACHED SULPHITE PULP

(IN TONS OF 2,000 POUNDS)

CAPACITY 1,469,227
CONSUMPTION 1,433,361
PRODUCTION 1,070,795
IMPORTS 385,809
DOMESTIC SALES 319,687
EXPORTS 23,243

United States Pulp Producers Association.

1939

UNBLEACHED SULPHITE PULP

(IN TONS OF 2,000 POUNDS)

CONSUMPTION 1,360,175
CAPACITY 1,052,721
PRODUCTION 740,000
IMPORTS 661,090
DOMESTIC SALES 202,438
EXPORTS 40,915

United States Pulp Producers Association.

cient Americans mills. These prices are also considerably less than the "fair value" or foreign costs of similar pulps, as defined in the Antidumping Act, which are therefore being sold in the United States in violation of that Act, unless such values are the result of non-competitive transactions or deliberate attempts to establish a fictitious low home market to circumvent the restrictions of our Antidumping Act.

Conclusive evidence of injury to the domestic industry from the "dumping" of foreign pulps in this market has also been submitted in detail to you.

One has only to compare American costs of production and relative freight charges, both ocean and inland, on domestic and foreign pulps, with the prices at which foreign pulps are being sold in the United States, and to realize that the resultant losses, both of business and profits, have forced domestic mills to curtail their production from 30 to 50 per cent while foreign pulp production continues at 70 to 80 per cent of capacity, to understand that the domestic industry has been seriously injured by such foreign competition.

Then, if it is appreciated that as the result of having obtained a stranglehold on the domestic industry through forward selling at "married" contract prices, with deliveries extending over the next two years or more, it can be readily understood that the present injury will continue (unless prompt relief is obtained through the enforcement of the Antidumping Act) to a point where there can be no prospect of any reasonably profitable operation for the domestic industry and not only will the American pulp consumer be entirely at the mercy of the foreign pulp producer, but this basic American industry will be even more seriously crippled than it is at present.

That means more unemployment, greater local relief burdens, less local, state and national tax revenue and increasing dependence on foreign sources of supply for products of a fundamental American industry.

Surely the domestic pulp producers have the right to expect Government relief from the increasing burdens of intensified and subsidized import competition—in short, to expect that the Government of the United States will carry out the intent of Congress in respect to the prevention of "dumping" of foreign pulps in this market by prompt and vigorous enforcement of the Antidumping Law.

The following tabulation illustrates how European pulp producers who sell on a long-term basis, are able to take advantage of the American producers, who sell upon a quarterly adjustment

The inability of the American Pulp Producers to reduce prices low enough to prevent business from going to for-

eign producers is indicated in the following tabulation:

	Approximate "Marriage" Contract Price of Foreign Pulp	Approximate Domestic Prices	Difference
Fall 1937	\$65	\$48	+ \$17
Spring 1938	44	44	0
Fall 1938	37	40	— 3
Spring 1939	33	37	— 4
	Average \$44.75	\$42.25	\$2.50

These transactions may vary in value or actual dollars and cents but the principle covers practically all the foreign pulp trading that has been done during the last two years on the large accounts in the United States. This practice tends to preclude even an opportunity for an American mill to sell its product. If the initial contract had been lived up to and discharged at the end of 1937, an American producer would have had an opportunity to sell his product at the then prevailing market price of (for the purposes of illustration) say, \$54, C.I.F. Atlantic dock, and an equal opportunity to have sold his pulp in 1939 at the average compromise price, which the foreign sellers are now enjoying this year on that type of transaction, of \$38, to \$39, Atlantic seaboard dock. This is the appraisal or invoice figure which is used in making the reports to our Government on values of imports of these non-dutiable goods.

Obviously therefore, in checking a charge of "dumping," it is absolutely necessary to find out what the ACTUAL low price was which enabled the foreign producer to average the price of the total tonnage commitment to the figures which may be shown on entry documents. Unfortunately, it is this LAST LOW PRICE which domestic sellers are always asked to meet on competitive business and which NEVER appears on documents submitted to Government officials.

I will appreciate speedy consideration of this question.

Yours very truly,

(Signed)
LEWIS B. SCHWELLENBACH.

Throughout the last quarter of 1939 the demand for wood pulp continued to improve with the paper and paperboard mills running close to capacity. The American

basis. The dates and quantities are typical of contracts made in the unbleached sulphite pulp market commencing in 1937 when prices of European pulps reached their peak:

Fall 1937	Purchased	2,000 tons	@ \$65	\$130,000
Spring 1938	"	2,000 "	@ 44	88,000
	Averaging	4,000 "	@ 54.50	218,000
Summer 1938	Used	2,000 "		
Fall 1938	Inventory	2,000 "	@ 54.50	109,000
Fall 1938	Purchased	2,000 "	@ 37	74,000
	Averaged	4,000 "	@ 45.75	183,000
Winter 1938	Used	2,000 "		
Winter 1938	Inventory	2,000 "	@ 45.75	91,500
Spring 1939	Purchased	2,000 "	@ 33	66,000
	Average	4,000 "	@ 39.37	157,500

Paper & Pulp Association's production to capacity ratio showed 97 per cent in November.

The Tariff Commission declined to make the investigation of wood pulp and pulpwood as requested by the late Senator Borah's resolution passed early in August by the Senate, giving as its reason the changed conditions brought about by the war. In a letter written October 2nd to Vice President John N. Garner in his capacity as President of the Senate, Raymond B. Stevens, chairman of the Tariff Commission said that unless the Senate gives instructions to the contrary the commission proposed to withhold completion of the report. He gave the changed pulp situation brought about by the war as the reason. In part he said, "At any rate, the conditions prevailing at the time the resolution was introduced do not now exist, and it seems unlikely that they will arise as long as the European war continues."

Upon the publication of Mr. Stevens' letter the consensus of opinion thought that the Tariff Commission had completely missed the intention of the Borah Resolution, either accidentally or intentionally. The late Senator Borah at the time he introduced his resolution was not thinking of war conditions but of peace conditions, conditions as they existed at the time and that had existed for many months. He wanted the important factors back of those conditions brought out.

Commenting upon the Tariff Commission's action this journal said in part in the October number.

"When the war is over it is logical that these countries, Sweden, Finland and Norway, will endeavor to sell more pulp than ever before to the United States and Great Britain. Further depreciation of their currencies will be the easiest way of securing this business. They may realign their monies with the pound again. If they do this, we can be sure that the realignment won't be with a British pound worth the \$4.68 of last August, and possibly not even with a pound worth

\$4.00, the present value. It may be much lower.

"Even if the pound is worth \$4.00 at the end of hostilities the currency advantages of the Scandinavian countries would be tremendous. We know that at a pound worth \$4.68, instead of par at \$4.86, their advantages ran from \$3.00 to \$4.00 per ton of pulp.

"They would, if the krona, the finmark and the crown were tied to a \$4.00 pound, be able to force the shutting down of our pulp industry, throwing thousands of men out of work, making our pulpwood stands valueless, and turning our paper industry into a wild, price-cutting, profitless mess."

The Tariff Commission could have helped to provide protection against the shock of the war's aftermath by furnishing the factual raw material for a program of self-defense.

A number of senators protested this action of the Tariff Commission but without avail. The Senate has not, to date, taken any action to insist upon the completion of the report upon the conditions as they existed last August.

Last Quarter Imports

● Contrary to the expectations of a great many men in the pulp and paper industry the imports of wood pulp did not immediately decline with the advent of war in Europe. The buyers of wood pulp in the United States were willing to accept shipments from Europe ahead of scheduled delivery and to build up sizeable inventories. At the same time many bought all the American pulp they could get.

The imports during September, the first month of the war, showed an increase of 6.5 per cent over the imports in August. Imports from Canada and Finland showed increase but those from Sweden and Norway decreases.

The imports of foreign pulp in October showed a further increase to 34.7 per cent over September. Shipments from Finland in October declined 15.9 per cent, those from Sweden increased 52 per cent, from Norway 259.5 per cent, and from Canada 10 per cent.

Again in November the imports of wood pulp rose with a 25.8 per cent increase over October and 69.5 per cent increase above September. Shipments received from Sweden were 68.2 per cent over those in October. The imports from Finland were down 3.85 per cent below October. Those from Norway were

up 5.6 per cent over the October imports which in turn were 259.9 per cent over September. Canadian shipments dropped 5 per cent below October.

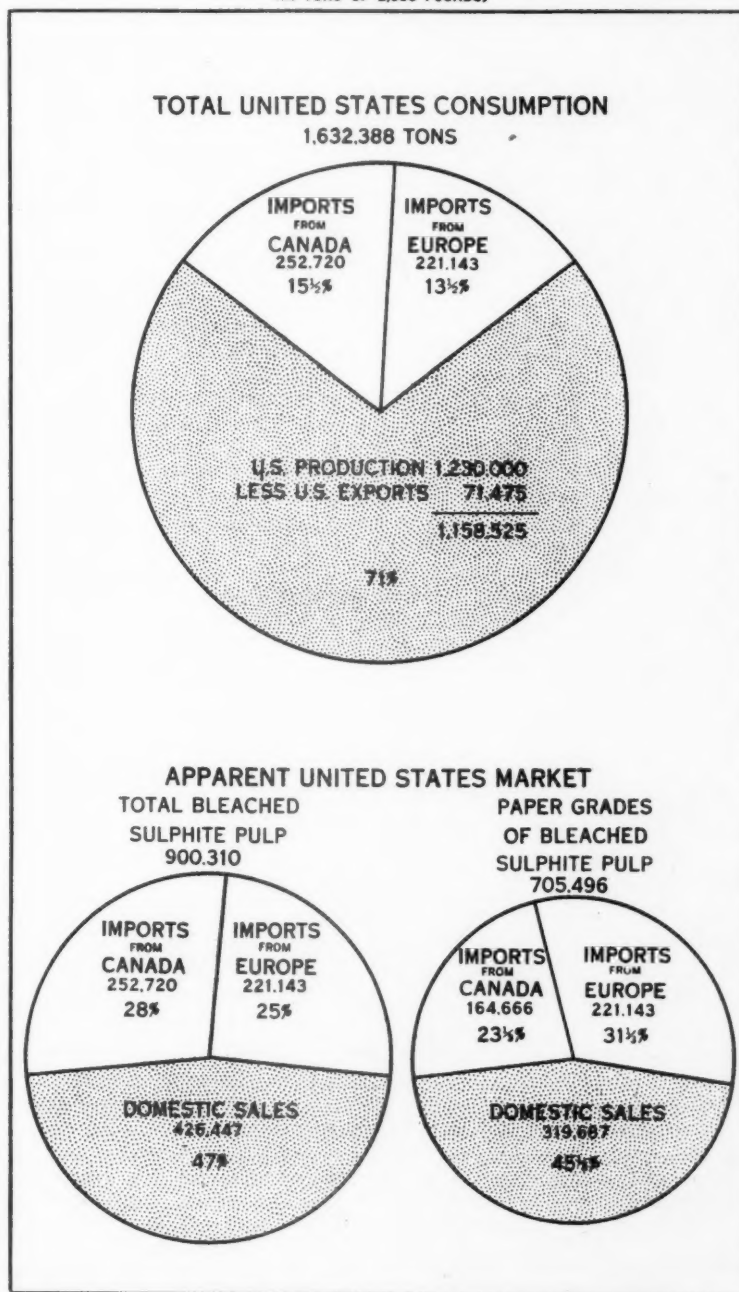
A decline of 6 per cent was recorded in pulp imports during December from the November total, but the December imports were 18

per cent above October and 36 per cent higher than December, 1938, imports. Imports from Finland were up 66 per cent in December over November. From Sweden the pulp shipments declined 22.7 per cent and from Norway 36.7 per cent. The Canadian shipments rose 2.4 per cent.

1939

BLEACHED SULPHITE PULP

(IN TONS OF 2,000 POUNDS)



United States Pulp Producers Association.

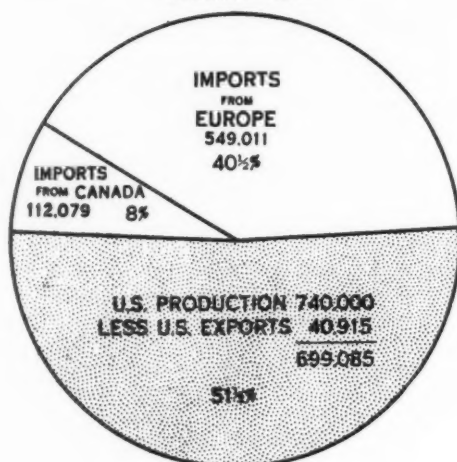
1939

UNBLEACHED SULPHITE PULP

(IN TONS OF 2,000 POUNDS)

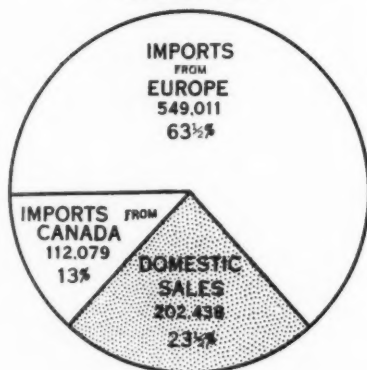
TOTAL UNITED STATES CONSUMPTION

1,360,175 TONS



APPARENT UNITED STATES MARKET

863,528 TONS



United States Pulp Producers Association.

First Quarter Imports

● Imports of wood pulp into the United States during the first quarter of 1940 continued on a high level and were 2.6 per cent greater than in December. Imports from Finland were down 7 per cent from December in addition to the 66 per cent decline recorded in that month

from the November total. Norwegian pulp shipments exhibited a rise of 1 per cent after a decline in December of 36.7 per cent from November. Swedish pulp shipments to this country rose 25 per cent in January over December, more than recovering the 22.7 per cent loss in December from the No-

vember high. Canadian shipments were down 14 per cent below December which had shown a 2.4 per cent rise over November's shipments from Canada.

The decline in pulp imports set in definitely early in February and the month ended with a total 39.4 per cent less than the total for January. However, the February pulp imports were 43.3 per cent higher than in February, 1939, and 21 higher than in February, 1938.

Shipments received from Finland declined 79.1 per cent from January to 8,753 short tons. It was considered remarkable that any pulp at all came from Finland engaged in war with Russia at the time. The Norwegian shipments were down 39.8 per cent in February from the total in January and the Swedish shipments were off 43.1 per cent. Canadian shipments to the United States were less by 7.3 per cent.

From February pulp imports totaling 158,827 short tons the March imports declined 53.4 per cent to 73,905 short tons. No pulp whatever was imported from Finland during March. Norway supplied but 494 tons, a decline of 92 per cent from the 6,161 tons shipped to this country in February.

Swedish shipments of pulp to the United States dropped 78.7 per cent, from 81,968 in February to 17,422 in March. Imports from Canada also declined from 58,234 tons in February to 45,288 tons in March, a drop of 22.2 per cent.

How much of the February and March decline in exports of pulp from the Scandinavian countries to the United States was due to the war and what proportion to the unusually severe winter could not be determined. These months are normally low in tonnage anyway. Finland's exports were, of course, largely eliminated by the war with Russia. April import statistics are not available as this is written but they are expected to show almost the entire elimination of exports from Scandinavia due to the involvement of Norway and the apparent closing of the Baltic.

How long this situation will last none can predict. Stocks of pulp were built up in this country during the Fall and Winter. Now they are dwindling and the situation is growing tighter.

Coast Production Expanded

● Although there were no new pulp or paper mills completed on the Pacific Coast in 1939, the industry's daily capacity was considerably expanded as will be noted by a study

of the daily capacity table on pages 20 and 21.

In Washington and Oregon the daily wood pulp producing capacity was expanded from 5,647 tons to 6,053 tons, a rise of 406 tons. Paper and paperboard productive capacity in Washington, Oregon and California increased from 4,228 to 4,346 tons, an increase of 118 tons.

British Columbia daily pulp producing capacity ratings were upped 95 tons, not including the potential 150 tons of the proposed unbleached sulphite pulp mill at Port Alberni. Paper and paperboard daily capacity expanded 40 tons, from 1,060 tons to 1,100 tons.

These additions were accomplished through elimination of bottlenecks in the form of equipment and also through the increased efficiency of production methods. The indus-

try grows steadily by replacing equipment of insufficient capacity with machines having excess capacity thus creating new bottlenecks which are eliminated in the future. Productive capacity gradually grows in this manner.

The Association Programs

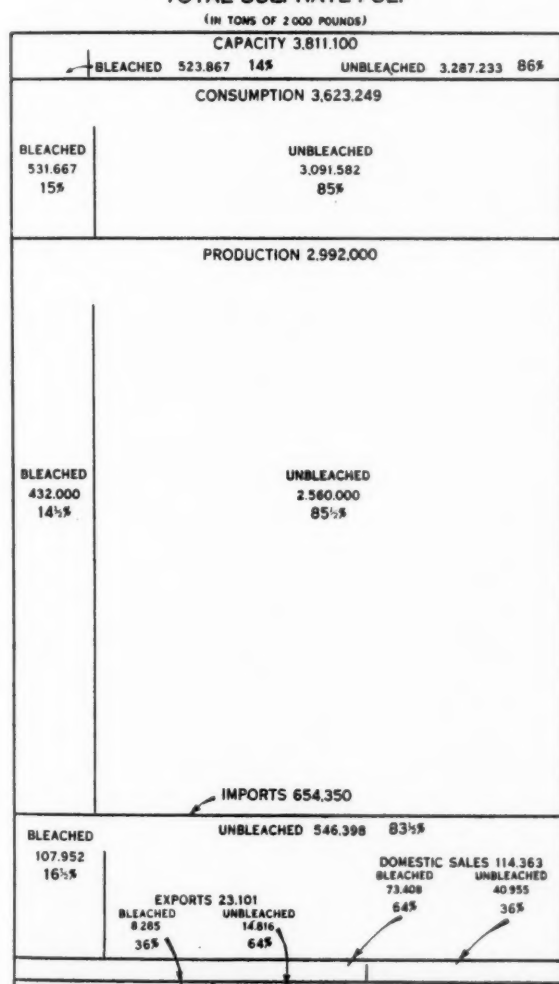
● The instructive programs of the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association and of the Pacific Section of TAPPI, continued in 1939 to provide the men with much useful information.

The Superintendents held two meetings during the year, a joint meeting with the Pacific Section of TAPPI in Tacoma, Washington, June 2nd and 3rd, and a meeting of the Superintendents alone in Portland, Oregon, December 1st and 2nd.

The joint meeting in Tacoma was featured by the attendance of W. H. Swanson, vice-president of TAPPI (now president), Dr. Carl E. Curran, chief, Division of Pulp and Paper, U. S. Forest Products Laboratory at Madison, Wisconsin; and, R. G. Macdonald, of New York, secretary of TAPPI.

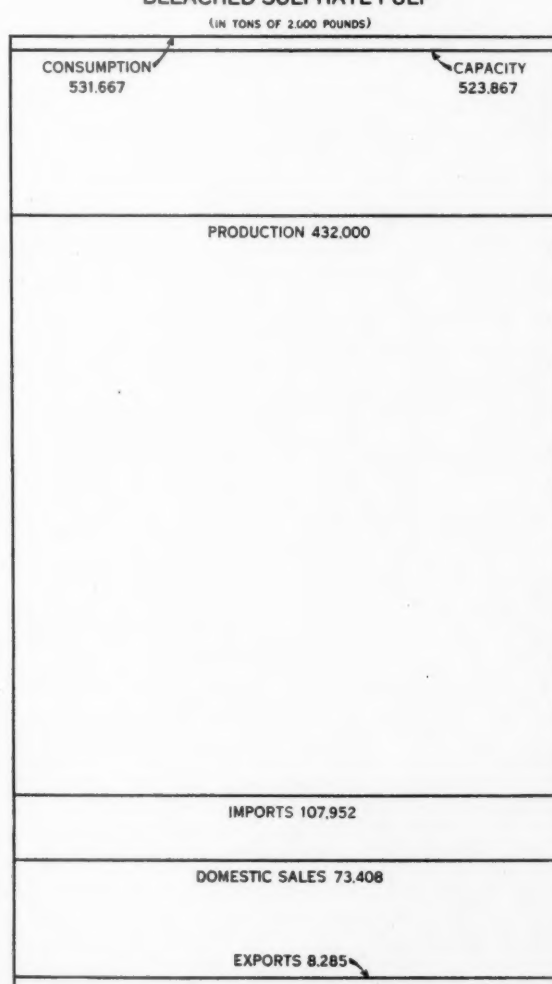
The Shibley Award presented by the Pacific Section of TAPPI for the best paper delivered at the dinner meetings during the preceding season by one of the younger men in the industry. The 1938-1939 award was presented to L. A. Wendt of the Everett Mill, Pulp Division Weyerhaeuser Timber Company, Everett, Washington, for his paper, "A Discussion of the Operation of Photo-Electric Consistency Controllers." The presentation was

1939 TOTAL SULPHATE PULP



United States Pulp Producers Association.

1939 BLEACHED SULPHATE PULP



United States Pulp Producers Association.

made by Mr. Swanson following a talk by N. W. Coster, chairman of the Pacific Section. Mr. Coster pointed out that this meeting marked the tenth anniversary of the organization of the Pacific Section of TAPPI.

In addition to Mr. Wendt the following men presented papers in the Shibley Award contest: John Howarth Bardsley of the Powell River Company, Ltd., "Various Percentages and Beating of Sulphite Pulp in Mixtures with Groundwood Pulp for Newsprint"; Claud Christensen of the Crown Willamette Paper Company, Division of Crown Zellerbach Corporation, Camas, "A New Method of Pulp Testing Control—The Morden Tester"; Robert Kuhn of the St. Regis Kraft Company, "Investigation of the Sources and Characteristics of Dirt in Bleached Sulphate Pulp"; and Adolph Orup and R. I. Thieme of

the Soundview Pulp Company, Everett, Washington, "The Meta-Bisulphite Method for the Determination of Residual Chlorine."

At the joint meeting in Tacoma five papers were presented: "Forest Products Research in Pulping Western Woods," was the title of the paper given by Dr. Carl E. Curran, chief, Division of Pulp and Paper, U. S. Forest Products Laboratory, Madison, Wisconsin; Thomas E. Moffitt, chemical engineer, Hooker Electrochemical Company, Tacoma, presented a paper on "Objectives in the Various Stages of Pulp Purification"; "Cooking Problems and the Cell Walls of Wood" was the title of the paper given by Professor Bror L. Grondal of the College of Forestry, University of Washington, Seattle.

"Boost Wood Pulp—A Versatile Raw Material," was the subject of the paper by William C. McIndoe,

industrial chemist of Portland; and, the fifth paper was, "The Factors Affecting the Life of Paper Machine Felts," by V. L. Tipka, research engineer, Hawley Pulp & Paper Company, Oregon City, Oregon.

At the December meeting of the Superintendents at Portland three papers were given, "Practical Observations on Flat Screen Operation," by Erik Ekholm, general superintendent, Puget Sound Pulp & Timber Company, Bellingham, Washington; "Wet Strength of Groundwood," by Kenneth C. Logan, Pacific Mills, Limited, Ocean Falls, B. C.; and, "Development in Paper Machines, 1930-1940," by J. E. Goodwillie, engineer, Beloit Iron Works of Beloit, Wisconsin.

The Pacific Section of TAPPI sponsored seven dinner meetings during the 1938-1939 season. These were held in Portland, Everett, Port

1939

UNBLEACHED SULPHATE PULP

(IN TONS OF 2,000 POUNDS)

CAPACITY 3,287,233
CONSUMPTION 3,091,582
PRODUCTION 2,560,000
IMPORTS 546,398
DOMESTIC SALES 40,955
EXPORTS 14,816

United States Pulp Producers Association.

1939

GROUNDWOOD PULP

(IN TONS OF 2,000 POUNDS)

CAPACITY 2,286,250
CONSUMPTION 1,677,954
PRODUCTION 1,450,000
IMPORTS 227,954
DOMESTIC SALES 29,798

United States Pulp Producers Association.

Angeles, Tacoma, Camas, Seattle and in Vancouver, B. C. In addition to the papers given in competition for the Shibley Award the following were presented at the 1938-1939 dinner meetings: "Some Gas Cleaning Problems in the Pulp and Paper Industry," by Evald Anderson, technical director of the Western Precipitation Company of Los Angeles; "The Fair Labor Standards Act of 1938 and Other Social Security Legislation," by Otto A. Hartwig, adviser and consultant on unemployment and social security problems to the Crown Zellerbach Corporation, Rayonier Incorporated and Fibreboard Products, Incorporated; a discussion of the Rosenblad spiral heat exchanger by Curt Rosenblad of Aktiebolaget Rosenblads, Stockholm, Sweden; an illustrated lecture on his visits to cellulose and lignin research centers in Europe, by Dr. Henry K. Benson, executive officer of the Department of Chemistry and Chemical Engineering, University of Washington, Seattle; "Specific Heats and Boiling Temperatures of Sulfate and Soda Black Liquors," by Dr. Kenneth A. Kobe

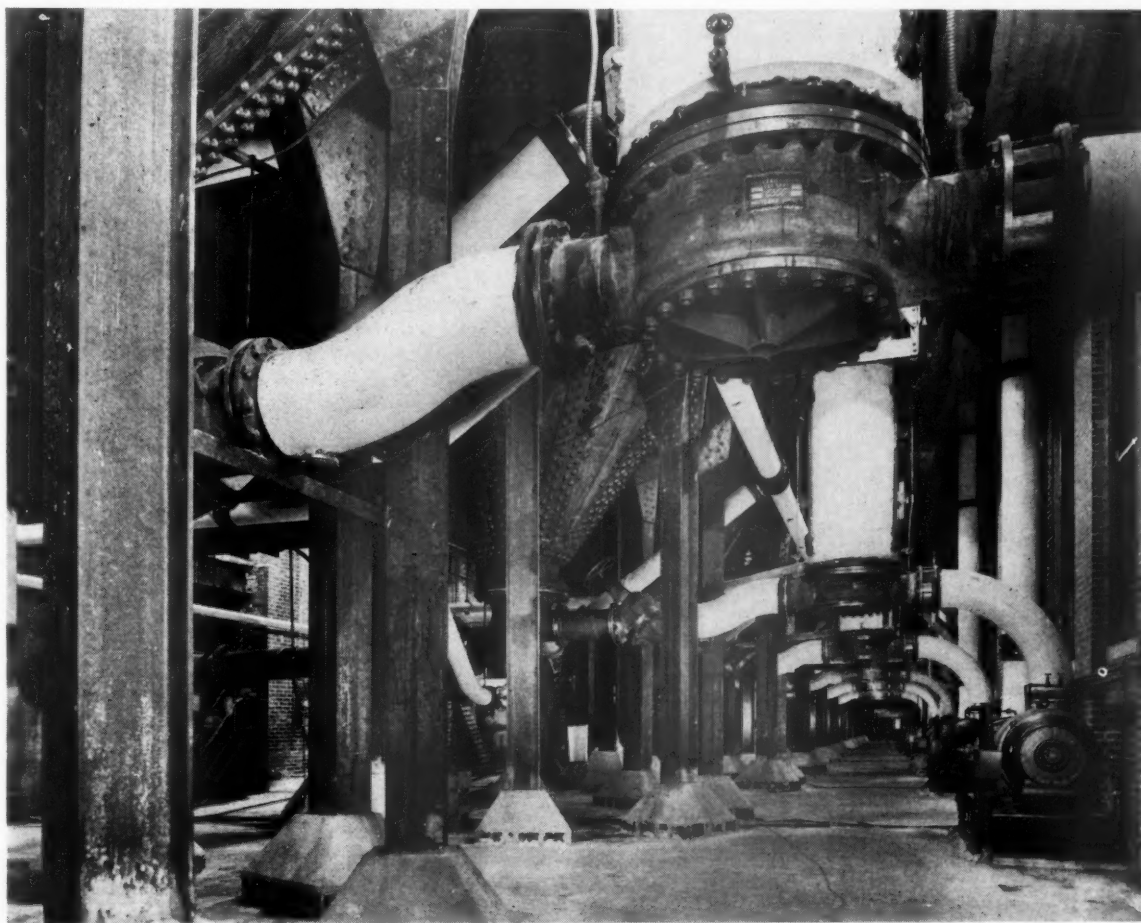
and Arvin J. Sorenson, of the Department of Chemical Engineering, University of Washington, Seattle; "Paper Schools—Their Organization and Conduct," by William R. Barber, technical director, Crown Zellerbach Corporation, Camas; "Vocational Education for Pulp and Paper Mills," by George H. McGregor, superintendent, Longview Mill, Pulp Division, Weyerhaeuser Timber Company, Longview; "Can Technical Men Contribute to Good Industrial Relations," by A. R. Heron, director of industrial relations, Crown Zellerbach Corporation and Rayonier Incorporated; "Trends and Developments in the Manufacture of Ceramic Products for Industrial Use," by J. Gordon Adderson, Gladding, McBean & Company; "Some Aspects of Forest Administration in Relation to the Pulp and Paper Industry," by C. V. Orchard, assistant chief forester of the British Columbia Forestry Department; and, "The Production of Sulphur Dioxide Gas by Flash Roasting," by Harold O. Goddard of the Nichols Engineering and Research Corporation of Canada. The latter paper

was presented by A. H. Lundberg of Seattle, speaking for Mr. Goddard.

Wage Agreements Maintained

● The wage agreement between the mills on the Pacific Coast and the two unions, the International Brotherhood of Pulp, Sulphite and Paper Mill Workers and the International Brotherhood of Paper Makers, were automatically renewed for the second time on May 31, 1939, as neither side gave the required 30 days' advance notice of a desire to open discussion for revisions. Despite the slow rate of production during the first nine months of 1939 the Pacific Coast industry continued to pay the highest hourly wages paid by the industry in any part of the world.

The agreement has been opened for discussion and revision on May 31, 1940, and, at this time, the several groups are engaged in holding preliminary meetings prior to the start of negotiations between employers and employees to provide a new agreement to be in effect from June 1st, 1940, to May 31st, 1941.



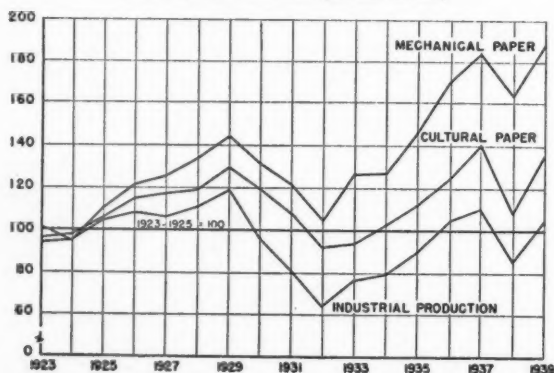
A New Decade*

The principal achievement in the last decade, says the American Paper & Pulp Association, was the attainment of a new high basis of paper consumption in the United States—This coupled with increasing efficiency and lowered prices, placed the industry high in the ranks of American industry from the standpoint of consumer service.

THE panicky, depression-ridden 1930's have passed; a new decade lies ahead. What it will bring to the paper and pulp industry is beyond present knowledge. The broad movement of trends, however, usually indicates possibilities.

Fig. 1

Index of Consumption of Mechanical and Cultural Papers Contrasted with General Industrial Production Index (1923-1939)



SOURCES: Bureau of the Census and Federal Reserve Board.

Although the 1930's will be looked upon as a period of acute depression in paper and pulp manufacture, the industry's record is not wholly discouraging. The principal achievement in the decade was the attainment of a new high basis of paper consumption in the United States. This coupled with increasing efficiency and lowered prices placed the industry high in the ranks of American industry from the standpoint of consumer service.

The industry is among the few which has gotten back to the rising trend lines that were established in the past. Some newer industries, notably chemical, and airplane manufacture, have reached substantially higher levels. The record of the older industries, on the other hand, is not as encouraging, for per capita consumption of most commodities has failed to rise to the levels that were established in the 1920's.

The consumption of paper and pulp is an exception. Four times in the decade previous records were broken. This means that the products of the industry have become more important in the long list of articles that are consumed in large quantities. It also means that the manufacture of paper and pulp has reached a new

and higher position in the economic and industrial structure of the United States.

Because of diversity of use there are no direct indices by which the consumption of paper and pulp may be gauged, but certain comparisons can be made which are indicative if not fairly conclusive evidence of trend movements. Perhaps the most illustrative is comparison with the trend of general business activity.

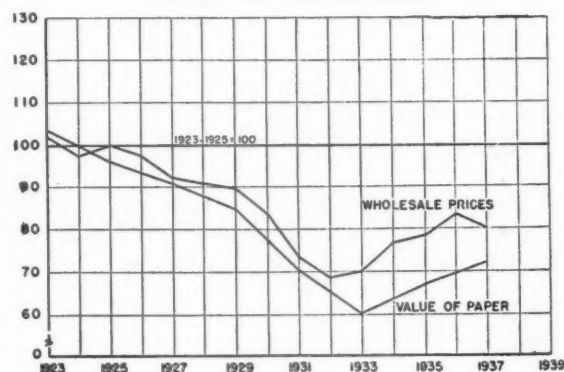
The basis of measuring industrial activity, as compiled by the Federal Reserve Board, is comparison with the average activity of all industry in the period between 1923 and 1925. The index trend is shown in Figure 1. With it the visible consumption of paper, split into the two broad groups generally known as the cultural and mechanical papers, is compared on a corresponding index basis.

This comparison shows clearly the growing importance of paper in the whole field of merchandising and by inference the growing importance of the industry itself in the economic community. It is interesting to note that in 1936, when the Federal Reserve Board's index recovered to 100, the level of more than a decade previously, the index of cultural and mechanical paper consumption had reached 126 and 171, respectively. It is clear that while other industries were engaged in recovering their former positions, the paper and pulp industry was going on to establish new use levels.

The underlying reasons for the more rapid growth hinge upon two major courses of development. The one is technical; the other is economic. Despite poor income and adverse price-cost relationships in the 1930's, the industry has probably spent more in technical development than it did in the prosperous 1920's. No

Fig. 2

Index of Average Per Ton F.O.B. Value of Paper Contrasted with Index of Wholesale Commodity Prices (1923-1939)



*Reprinted from the Monthly Review of the American Paper & Pulp Association, Volume 7, Number 1, January, 1940.

single great revolutionary change resulted, but the aggregate accumulation of small advances when compared by decades is truly revolutionary. As a result, paper has been adopted to many more uses and costs of production have been substantially reduced. These two results, taken together, have meant that paper has displaced other commodities in established use and it has gone on to create new uses which in aggregate volume now reach a tremendous total.

The other development which hinges back to technical progress is the constant reduction in the selling price of the products of the industry. What this amounts to is clearly indicated in Figure 2, in which the over-all f.o.b. mill value of paper and board production as reported to the Bureau of the Census is compared with the Bureau of Labor index of wholesale commodity prices. The widening spread between these trends is not due to the more rapid increase in the production of lower price grades entirely, for over-all average values of grade groups follow the same general pattern.

These developments have been made without sacrifice of employment or of wages. Technical improvement and cost reduction have resulted in decreasing man-hour requirements in manufacture. But these decreases have been more than offset by the greater consumption of paper. Both employment and payrolls are moving on to new records. In fact, the relationship between the average earnings of employees in paper manufacture, and the average value of paper f.o.b. mill, both series of figures taken from the reports of the Bureau of the Census, and shown in Figure 3, indicates a constant narrowing of spreads as earnings increase and values decrease. The savings which make possible the drastic price reduction come from other factors, among which low profits or none at all constitute the most significant single influence.

The industry is not likely to regard the 1930's favorably from the point of view of net income. Association records, based upon a growing number of company reports, indicate that operating profits were substantially lower in comparison with payrolls, average values of paper, and production than in the preceding decade. The extent to which profit relationships have changed is shown in the Association's study of financial statistics

Fig. 3
Index of Average Annual Earnings Per Wage Earner in the Paper and Pulp Industry and Average Per Ton F.O.B. Value of Paper (1923-1939)

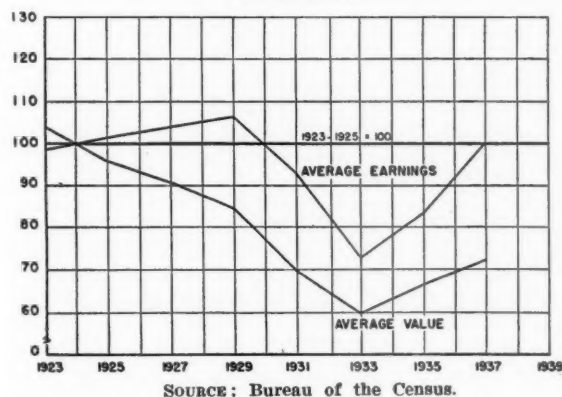
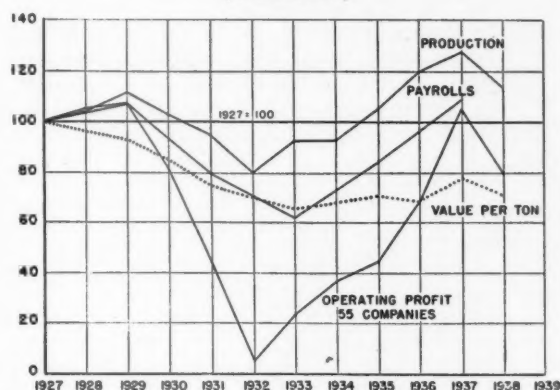


Fig. 4
Indexes of Paper Production, Total Payrolls, and Average Per Ton F.O.B. Value of Paper for the Entire Industry and Operating Profits of 55 Identical Paper Companies (1927-1939)



SOURCES: Bureau of the Census and American Paper and Pulp Association.

of nearly 100 companies which have participated in recent years. In Figure 4, the operating profit of a substantial number of companies representing all types of manufacture, both large and small, and all grades and regions, is compared with trends of production, values and payrolls. Only in 1937 were profits comparable with the records of the late 1920's and then only upon an over-all basis. Actually, operating profits when reduced to a per ton basis or as related to capital investment were in 1937 approximately 35 per cent below the former level.

With war raging in Europe, reaching out constantly to new battle lines, with repercussions in the economic status of all countries and principally in the United States which must of necessity be affected by the far-reaching shifts that are taking place in international trade, company executives are bound to hedge their predictions and plans proportionately with the uncertainties. There is this, however, in the paper and pulp industry that can safely be assumed: the continued high rate of consumption of the products of the industry. The stability of consumption of paper and pulp in its new position with respect to other industries and with respect to all industry, was proved in the hard years of the 1930's.

This and other facts can be translated to mean that the position of the paper and pulp industry in the 1940's is largely what the industry makes it. It is, therefore, largely a question of balancing supply and demand as it occurs. It is wholly a matter of using the tools which have been developed and which are now undergoing further development in careful, wise company management, which, if careful and wise, builds up into equally wise industry management.

By and large the record of the industry in the 1930's is a tribute to the organized cooperative activities of the industry. Not even the most enthusiastic supporter of association work, however, can attribute all of this development to cooperative activities, but the least enthusiastic cannot fail to recognize influences which discussion and analysis of industry conditions has had upon the improvement of company policy.

New Records Set by 1939 Paper and Board Production

Paper and Paperboard production reached 13,441,500 short tons, 18% more than in 1938—Paper hit high production rate of 97.2% of capacity—Paperboard attained 84% of rated capacity—Newsprint production rose 14.6%—Wood pulp production up 20% over 1938.

THE actual consumption of paper in 1939 reached a new high point of 15,888,380 short tons (estimated) and again resumed its approach to the projected trend shown on the opposite page. Paper and paperboard production in 1939 totaled 13,441,500 short tons, 18 per cent more than the 11,380,814 short tons produced in 1938. Paper and paperboard consumption in 1938 was 13,488,300 tons.

United States newsprint production increased from 832,331 tons in 1938 to 963,500 tons in 1939, a rise of 131,169 tons or 15.8 per cent. It will be noted from the table at the bottom of the page that the 1939 newsprint production was less than that produced in 1934 and 1937.

Book paper production rose from 1,336,814 tons in 1938 to 1,512,000 tons in 1939, an increase of 175,186 tons or 13 per cent. It will be noted that the 1939 book paper production was exceeded only by the production of 1937.

Paperboard production at 6,100,000 tons (including grades not recorded by the National Paperboard Association) exceeded the 1938 production of 5,103,767 tons by 996,293 tons or 19.5 per cent. This was a new high record exceeding the 5,802,036 tons produced in 1937.

Wrapping papers also set a new high record with 2,214,000 tons in

1939. This exceeded 1938 production by 348,144 tons or by 18.7 per cent.

Writing papers were among the grades setting new production marks. The production of writing grades in 1939 totaled 612,000 tons, 130,281 tons or 27 per cent over the 1938 total of 481,719 tons.

Cover paper production of 21,500 tons was 1,284 tons more than the 1938 production of 20,216 tons or 6 per cent higher. The 1939 production was exceeded in two recent years, 1936 and 1937.

Tissue production attained a new production record with 626,500 tons 77,557 tons greater than the 1938 total of 548,943 tons. The increase was 14 per cent.

Building paper production likewise set a new record with 633,000 tons, 62,546 tons over the 1938 production of 570,454 tons, an increase of 10.9 per cent.

The year opened with production on a basis of 77.5 per cent for January, according to the American Paper & Pulp Association's production ratio to capacity record. This was 13.6 per cent higher than the rate in January, 1938, but 12.8 per cent below January, 1937, which showed production at 90.3 per cent of capacity. However, January of 1939 was better than the 76.1 per cent in the same month of 1936 or the 65.8 per cent in 1935.

From the 77.5 per cent in January the percentage ratio climbed to 84 per cent in March and then dropped back to a low of 75.2 per cent in July. August showed a rise to 82.9 per cent, September to 88.7 per cent, October jumped to 96.6 per cent and November hit the peak for the year of 97.2 per cent. December, always a lower month for production only dropped to 91.1 per cent.

Paper production averaged 84.9 per cent of capacity for the entire year, an increase of 12.6 per cent over the 72.3 per cent of 1938, and surprisingly enough 4.3 per cent over the 80.6 per cent recorded in 1937. The average of 81.3 per cent for 1936 was higher than 1937. In 1935 the average was but 70.5 per cent.

The first nineteen weeks of 1940 averaged 87.4 per cent against 81.8 per cent in 1939, 67.7 per cent in 1938 and 90.6 per cent in 1937.

● Paperboard production, according to the "inch-hours" per cents of operation basis of the National Paperboard Association, started the year 1939 with 60 per cent in January, 6 per cent higher than in January, 1938, but 20 per cent under the 80 per cent for January, 1937.

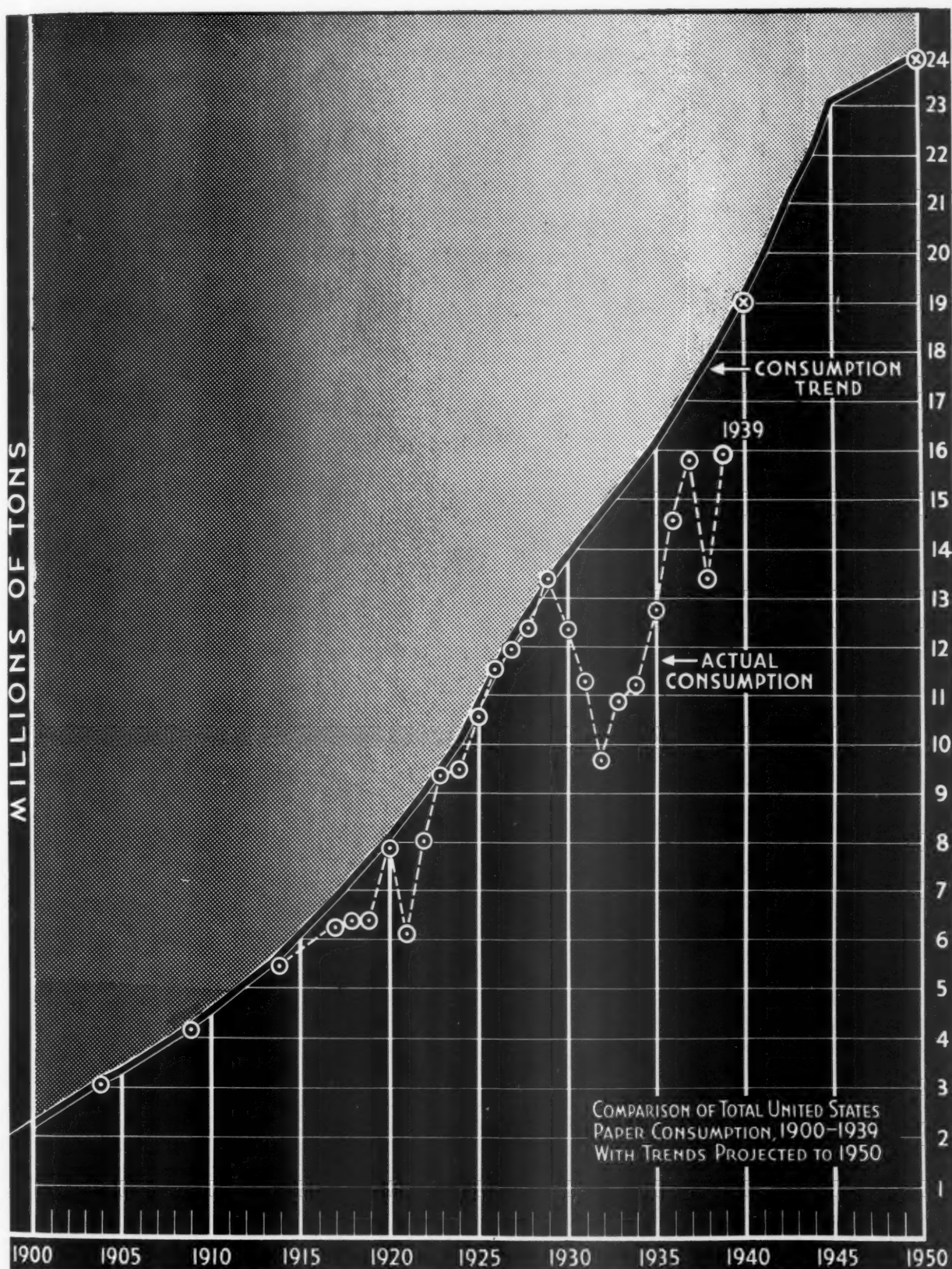
In February the percentage rose to 67 per cent, in March to 71 per cent, April dropped back to 69 per

U. S. PAPER PRODUCTION—1934-1939*

(Tons of 2,000 lbs.)

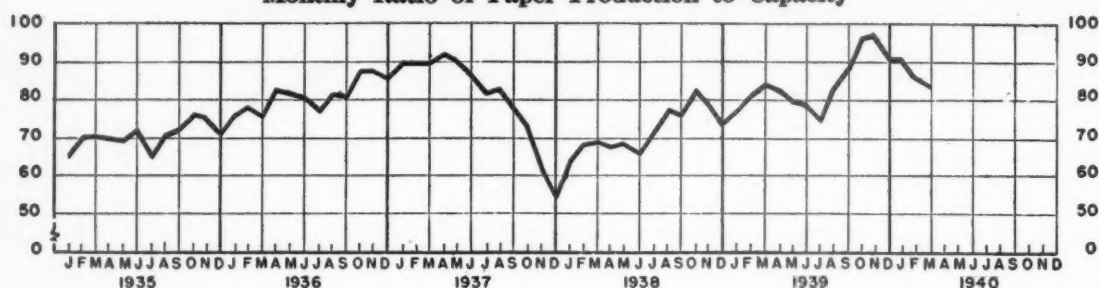
	1934	1935	1936	1937	1938	1939
Total—All Grades	9,186,226	10,479,095	11,975,552	12,837,003	11,380,814	13,441,500
Newsprint	989,705	947,717	938,287	975,854	832,331	963,500
Book papers	1,055,247	1,281,870	1,438,046	1,520,523	1,336,814	1,512,000
Paperboard	4,073,309	4,695,890	5,454,637	5,802,036	5,103,767	6,100,000
Wrapping	1,357,438	1,632,054	1,879,323	2,053,387	1,855,856	2,214,000
Writing	414,542	507,325	603,853	578,147	481,719	612,000
Cover	17,011	20,806	24,000	24,437	20,216	21,500
Tissue	398,770	473,314	494,721	540,152	548,943	626,500
Absorbent	78,953	95,179	105,000	138,064	126,320	---
Building	327,866	440,704	549,701	608,086	570,454	633,000
All Other	266,341	177,192	238,117	596,317	494,394	759,000

*Bureau of Census, U. S. Department of Commerce, Census of Manufacturers for 1934, 1935, 1936, 1937 and 1938 data. 1939 estimates by the American Paper and Pulp Association and allied associations.



TREND OF PAPER CONSUMPTION is toward a United States paper consumption of 24,000,000 tons in 1950 . . . This graph is drawn to an arithmetical vertical scale from a ratio scale graph prepared in April, 1938, by Charles W. Boyce, at that time Executive Secretary of the American Paper & Pulp Association.

Monthly Ratio of Paper Production to Capacity



Source: American Paper & Pulp Association.

cent, May went down to 64 per cent, but June rose again to 67 per cent. July suffered a relapse to 63 per cent but August jumped 9 per cent to 72 per cent. September showed 74 per cent, October 84, November 81 and December went down to 71 per cent. The average for the year was 70 per cent, 9 per cent better than 1938's 61 per cent but 3 per cent below 1937's 73 per cent and 2 per cent down from 1936's percentage of 72.

January, 1940, started out with 71 per cent of capacity, declining to 70 per cent in February and 69 per cent in March. The percentage rose to 70 in April and for the week ending May 11th, the percentage of production to capacity was 74.

Looking Back Upon the Fall Record

● "From a six months later viewpoint," says the American Paper & Pulp Association in its Monthly Statistical Summary, "it is now apparent that much of the high production of last fall was occasioned by forward buying in anticipation of war-time inflation of prices or shortages of paper. It is now evident that such price increases as occurred were moderate and in fact, hardly sufficient to meet increased produc-

tion costs and that industry has ample reserve capacity to meet the exigencies of any war-time situation that may develop.

"The relationship between orders received, production and stocks on hand at mills, is graphically shown in the table headed Paper Production, etc. (bottom page 40). It is clearly shown that each period during which orders exceed production is invariably followed by a longer period in which production exceeds orders and backlogs of orders worked off and, in many cases, stocks on hand built up. This occurred notably in the periods 1936-1937 and 1939-1940. Production has been running ahead of orders since October, 1939 (this statement took into consideration production and orders data through March—Ed.) New orders, after a sharp decline following the September upswing, appear to have leveled off during January and February while stocks on hand, after a steady reduction since April, 1939, now seem to be on the upturn. Stocks however, are not now excessive, and, while it will probably be a few weeks before adjustment between production and orders is complete, the industry is in an excellent position to

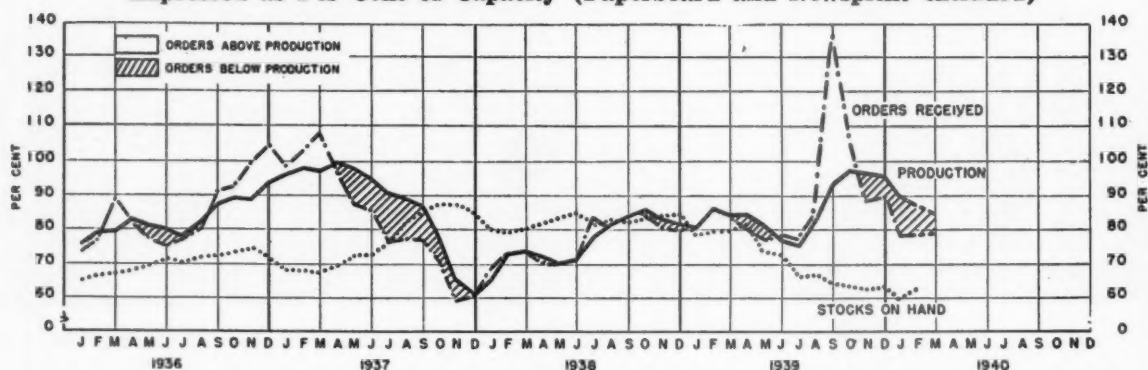
take advantage of a general business upturn."

Said Dun & Bradstreet, Inc., in their October survey of the paper industry,

"Entering the Summer period with inventories in the hands of wholesalers approximately the same as in the previous year and manufacturers' holding well under that level, the industry looked forward to a further moderate upturn in business during the remainder of the year, the survey continues. Buying policies remained cautious during July and August and prices held comparatively unchanged. Operating rates responded to the normal seasonal expansion in sales and expanded gradually.

"The outbreak of war in Europe changed the picture overnight. The threatened restriction of foreign supplies of pulp and the prospect of higher prices on all paper products caused a rush of orders from converters and distributors which exceeded manufacturers' capacity for deliveries. Fearful that the market might get out of hand, mills withdrew prices on some products, discouraging excessive speculative orders. Changes were occurring too rapidly to allow an accurate appraisal, but for the most part paper makers found earnings at the end of September considerably improved. Offsetting the higher costs of supplies and the advance in minimum hourly wages scheduled for October 15 were the strengthening of selling prices and the savings on operating costs resulting from near-capacity schedules. . . .

"Following the dull price movements of the preceding twelve months, prices suddenly took the center of the stage in

PAPER PRODUCTION, NEW ORDERS AND STOCKS ON HAND AT MILLS
Expressed as Per Cent of Capacity (Paperboard and Newsprint excluded)

Source: American Paper & Pulp Association.

September. The uncertainty of pulp, casein, and other materials supplies and the higher charges involved in shipping and insurance caused a scramble to buy before finished goods quotations could be affected. Mills became fearful of a run-away market and made a concerted effort to restrict speculative purchases. In some instances, orders were booked only on condition that prices would be those prevailing at the time of delivery.

"On a number of products, the effect of the heavy demand was merely to firm prices up to quoted levels. Newsprint makers announced that present lists of \$50 per ton would be maintained through the first quarter of 1939. In other lines, however, the spurt in raw material costs was reflected almost immediately in sharply higher selling prices. With sulphite pulp and waste paper costs soaring, kraft board advanced to \$45 a ton on contract sales and to as much as \$55 on others. Kraft wrapping paper moved up to \$72 to \$75, compared with \$65 before the

war, and grocery bags made of kraft sold for \$90 to \$105 a ton, against \$70 or less previously.

"From a three-and-one-half-year low of 79.9 in July, the wholesale price index for paper and pulp, computed by the U. S. Bureau of Labor Statistics, is estimated to have recovered sharply in September to the highest level since the third quarter of 1938.

"Between January and September, the average number of failures per month in the paper industry was the lowest on record. Only two manufacturers were reported in financial difficulties. Wholesalers and retailers combined had 11 cases of bankruptcy, compared with 29 for all of 1938, and 11 in each of the two preceding years.

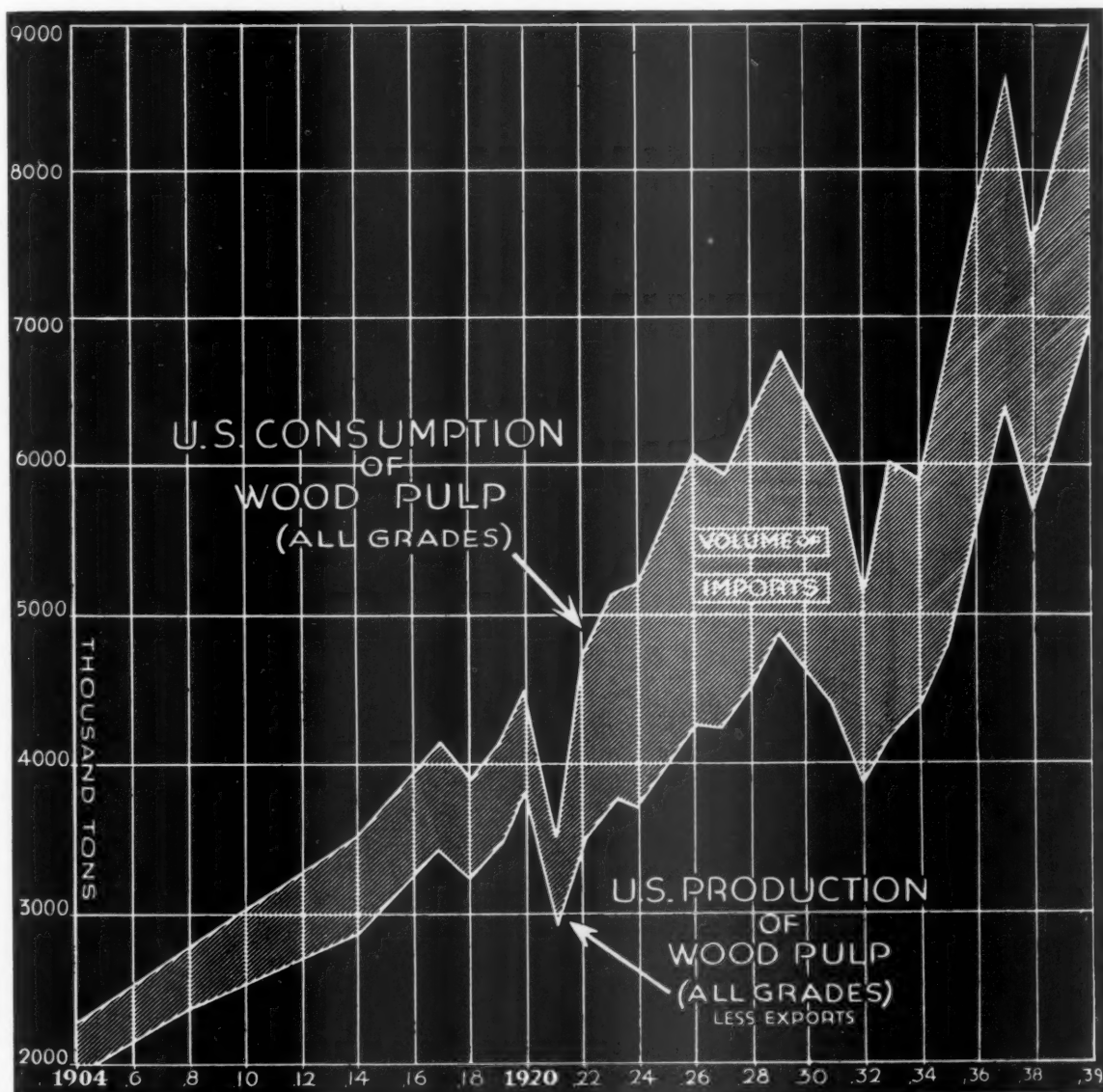
"The size of the average failure, measured by the amount of liabilities involved, was also approximately the lowest ever recorded. Manufacturers' liabilities averages \$20,000 per case, while retailers' totalled less than \$10,000."

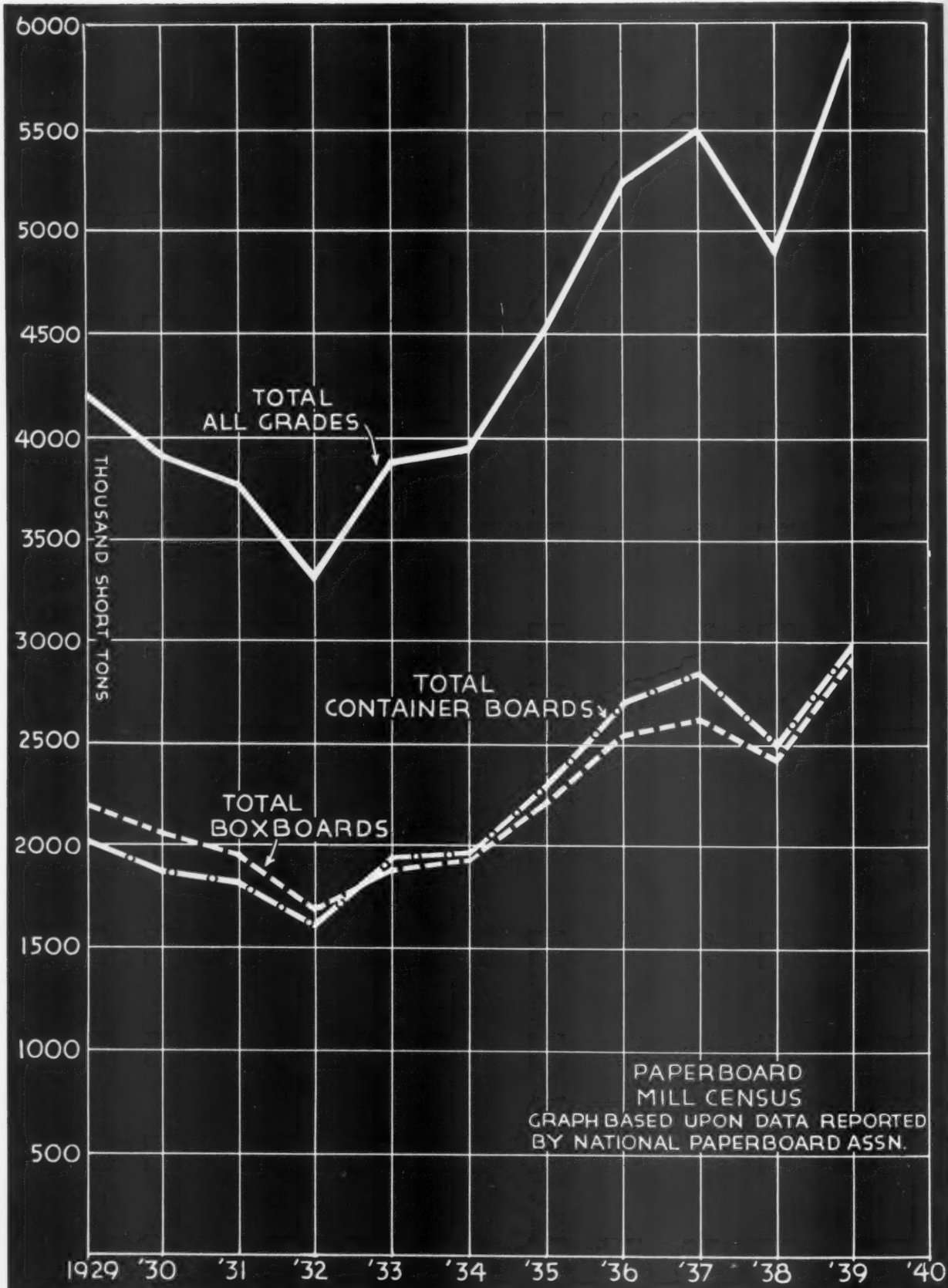
Mr. Everest's Comments

● In his address before the annual meeting of the American Paper & Pulp Association in New York on February 22, 1940, D. Clark Everest, retiring president said in part:

"... The pressure of the problems that lie immediately ahead is great. We cannot live in an unresurrected past. That is not our job. It is to meet the issues of our time with that courageous, imaginative spirit which has characterized the approach of those who came before.

"There is no need of reviewing our present situation, or what has happened since the beginning of the European war. The flood of orders, the pyramid of production, the threat to European pulp supplies, the re-opening of export markets, these and other things create an immediate situation with far-reaching repercussions. So far we have avoided panic. We have minimized excessive speculation and we have prevented run-away prices. So far, so good.

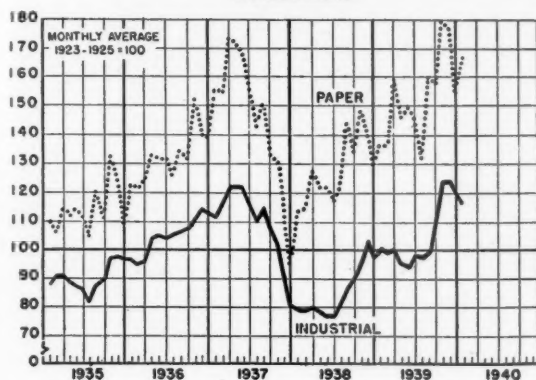




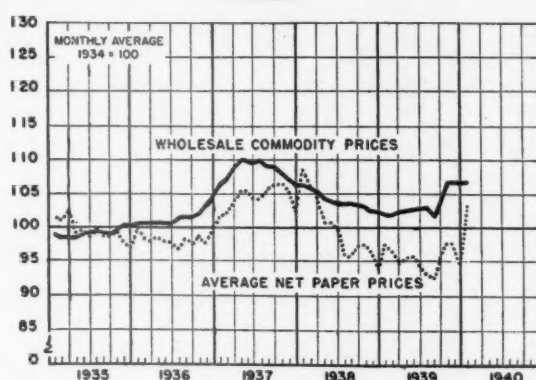
MONTHLY BUSINESS INDEXES

(Indexes not adjusted for seasonal variation)

Production



Prices



Source: American Paper & Pulp Association.

"Our future action concerns us now. We cannot overemphasize the importance of wise and considerate action, for our position is most critical. We are faced with the necessity of meeting a temporarily expanded domestic requirement, greater to the extent that general business reacts to the demands of belligerent countries and an even more temporary expansion of exports, and at the same time maintain a position best calculated to meet the tests of post-war depression. On the one hand we are likely to be encouraged to extend our production facilities. On the other hand, we know that the facilities that we now have are likely to be too great in subsequent adjustments.

"Posed before us in unmistakable terms are correlated series of problems of extraordinary importance, by far transcending the importances of ordin-

ary business problems with which we are familiar. Much more than company interests are at stake. In my opinion, the checks are down. We are going to bat in the clutch.

"The present market situation in which price weaknesses are appearing on a rapidly rising cost trend is wholly beside the point. We must look beyond, each of us must plan how best to serve, to meet real and implied obligations, to do our share in a greater game and to preserve our labor and capital position.

"Our immediate problem is to maintain confidence, particularly of our customers and our workers during the period of adjustment while consumption is absorbing the stocks which now exist.

"The huge backlog of orders last fall, probably the greatest the industry ever had, could not possibly represent an ac-

tual increase in consumption of the same proportions. Although consumption did increase, only by the sheerest flight of imagination could we conceive of its keeping pace with orders which exceeded in some cases by hundreds of percentages the immediately available capacity of the industry. Since late November we have been reducing the backlog. Orders have fallen off. Although a substantial industry backlog still exists, spotty conditions have appeared which are due to maladjustment between mills. The inevitable results of such conditions are apparent to all.

"Let us look at some of the underlying factors. The first and most important at the moment is wood pulp. As you know, approximately three-quarters of the wood pulp that is purchased in the United States is imported and about 60 per

UNITED STATES

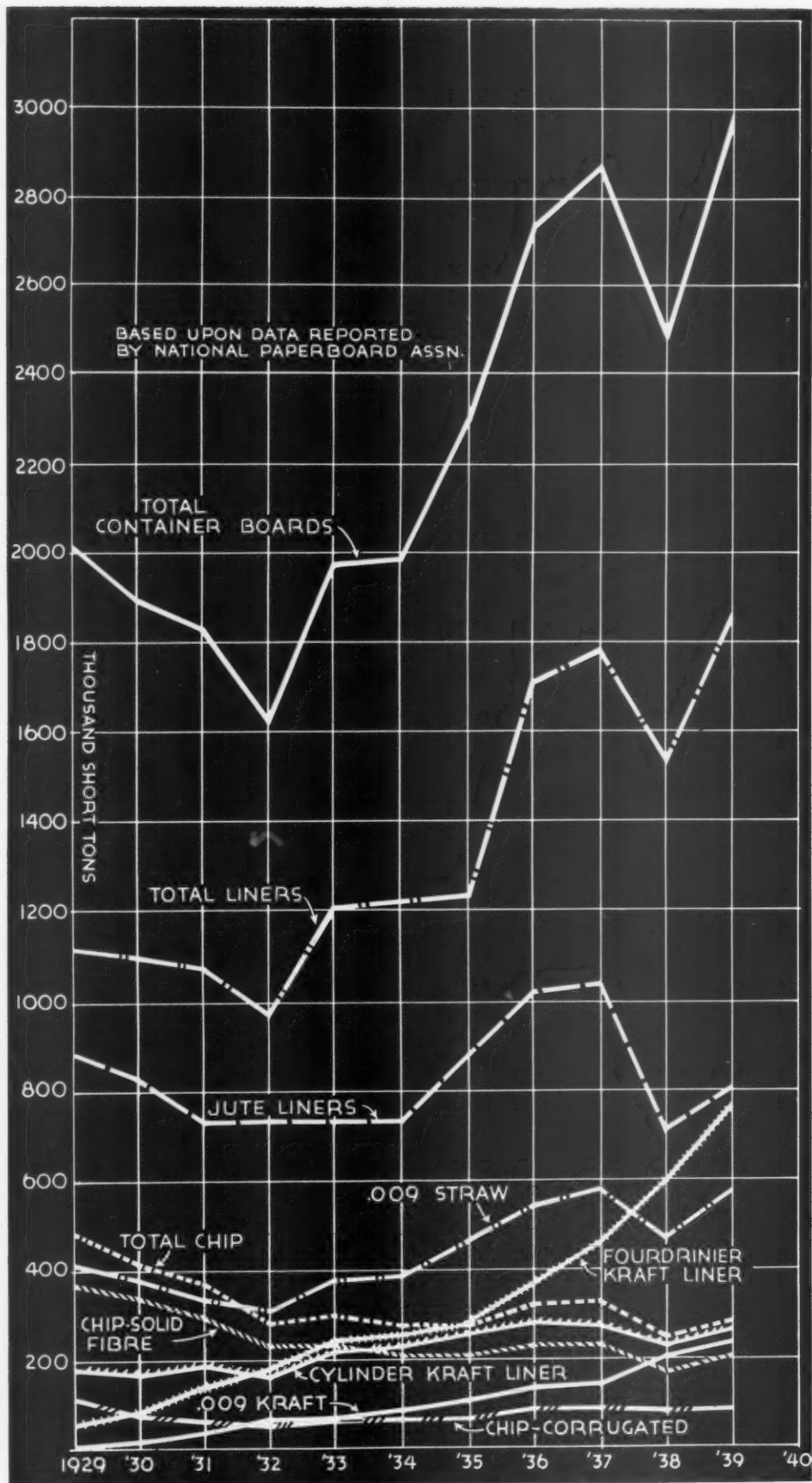
Paper and Woodpulp Production and Consumption Consumption of Domestic and Imported Pulpwood and Total Pulpwood Consumption Specified Years, 1899-1939

Year—	PAPER		WOODPULP		CONSUMPTION OF PULPWOOD		
	Production (tons)	Consumption (tons)	Production (tons)	Consumption (tons)	Domestic (cords)	Imported (cords)	Total (cords)
1899	2,167,593	2,158,000	1,179,525	1,216,254	1,617,093	369,217	1,986,310
1904	3,106,696	3,049,824	1,921,768	2,091,006	2,477,099	573,618	3,050,717
1909	4,216,708	4,224,000	2,495,523	2,856,593	3,207,653	793,954	4,001,607
1914	5,270,047	5,496,164	2,893,150	3,556,377	3,641,063	829,700	4,470,763
1917	5,919,647	6,255,725	3,509,939	4,148,600	4,706,327	773,748	5,480,075
1918	6,051,523	6,387,066	3,313,861	3,869,746	4,506,276	744,518	5,250,794
1919	6,190,361	6,479,490	3,517,952	4,113,911	4,445,817	1,032,015	5,477,832
1920	7,334,614	7,846,827	3,821,704	4,696,035	5,014,513	1,099,559	6,114,072
1921	5,356,317	6,053,915	2,875,601	3,544,218	3,740,406	816,773	4,557,179
1922	7,017,800	8,007,088	3,521,644	4,756,105	4,498,808	1,050,034	5,548,842
1923	8,029,482	9,339,573	3,788,672	5,149,695	4,636,789	1,236,081	5,872,870
1924			3,723,266	5,216,265	4,720,191	1,047,891	5,768,082
1925	9,182,204	10,590,090	3,962,217	5,590,304	5,005,445	1,088,376	6,093,821
1926			4,394,766	6,096,279	5,489,517	1,276,490	6,766,007
1927	10,002,070	11,915,233	4,313,403	5,960,865	5,526,889	1,224,046	6,750,935
1928	10,403,338	12,447,841	4,510,800	6,239,641	5,750,689	1,409,411	7,160,100
1929	11,140,235	13,347,925	4,862,885	6,704,341	6,411,566	1,233,445	7,645,011
1930	10,169,140	12,314,819	4,630,308	6,463,185	6,089,852	1,105,672	7,195,524
1931	9,381,840	11,403,850	4,409,344	6,005,718	5,896,446	826,320	6,722,766
1932	7,997,872	9,733,764	3,760,267	5,083,446	4,891,424	741,699	5,633,123
1933	9,190,017	10,919,391	4,293,344	6,027,088	5,933,295	628,379	6,561,674
1934	9,186,266	11,185,682	4,281,428	5,969,633	5,822,681	973,978	6,796,659
1935	10,506,195	12,490,886	4,944,226	6,877,869	6,590,942	1,037,332	7,628,274
1936	11,670,000	14,546,046	5,695,219	7,420,829	7,506,156	1,209,760	8,715,916
1937	12,600,000	15,798,362	6,617,184	8,692,489	8,870,932	1,522,868	10,393,800
1938	11,327,000	13,488,300	5,933,060	7,975,000	7,900,053	1,293,938	9,193,991
1939	13,441,500	15,888,380	7,117,000	9,003,937	11,031,350	1,130,874	12,162,224

Source: Bureau of the Census, Federal Trade Commission, United States Forest Service and A. P. & P. A. Bureau Foreign and Domestic Commerce.

Cords: 128 cubic feet.

*Pulpwood requirement is a computed figure which represents the pulpwood required to manufacture the total paper consumption of a year.



cent of those imports come from countries that are now either engaged in war or in the neighborhood of actual fighting. We know by the exports of the past few months that for the duration of the war we can expect little if any pulp from Central Europe. We know also that the heroic fight that Finland is making is draining almost to the last remnant the man power and labor resources of that country. Such a fight for freedom cannot be made and industrial production still be maintained. If the war continues, Sweden, Norway, Canada and the United States, in certain grades, are the only substantial pulp producers left in the world to supply the export market. My best calculations show a probable reduction in world exports of about one-third.

"At the same time, I think some of us have lost sight of the fact that our consumption of pulp since the beginning of the war has been substantially greater than ever before. This we must keep clearly in mind when we compare pulp imports since September first with those of any other period. Superficially, recent imports may seem adequate; actually they may prove to be far short of maintaining our usual reserve supply.

"Moreover, we cannot overlook immediate increases in costs of imported pulp, costs which we as consumers must pay right now. These are not only confined to the greater cargo and insurance rates but to manufacturing costs as well.

"These and other facts add up to just one thing, that the price of paper forced by costs over which we, as manufacturers, have no control, is bound to increase if the war continues. The increases must be substantial and they must take place in the near future. Price weakness now, therefore, which encourages the depletion

of customer stock and which give rise to false impressions of the market, can cause serious havoc later when these cost elements take effect.

"These conditions are only in the beginning. I have gone into some detail with respect to them because they are indicative of a situation which can develop to what end we do not know.

"None of us may foresee the duration of the war. We cannot, therefore, adequately plan our action. We do not know from experience in the first war that the situation will change rapidly, at times from day to day. Obviously, we must keep our position as liquid as possible.

"There isn't a business man in the United States who does not remember that upward spiral of economic activities that accompanied the first world war. Most business men have so far used extraordinarily sound judgment to prevent the recurrence of that condition. Because of the situation which I have just described, I believe that our own position is particularly critical. We cannot absorb the increased costs that we face. They must be passed on in the price of our product. In doing so a tendency for prices to run away may develop. This must be watched with great care.

"The consequences of too high prices for paper, with which I must admit we have had little experience, are known, nevertheless, to us all. We cannot look back upon the successive waves of capacity expansion which have followed every period of high prices in our industry and fail to recognize the lesson which is so plainly written. Yet we must frankly admit that on the basis of a number of likely situations which may develop, expansion may appear extremely fascinating. The temptation may prove to be

too great and another expansion wave may begin. . . ."

The Paper Trade of the World

● In its Monthly Statistical Summary for March, 1940, the American Paper & Pulp Association presented a brief analysis of the world paper situation. As this data is of interest to a great many who would not ordinarily see the publication, it is reproduced below:

"Many of the important paper producing countries of the world have now become involved in the European conflict as combatants. Others, while non-belligerent, find that due to the expansion of the zone conflict, their normal commerce and trade are seriously affected. The result of these developments is a serious dislocation to the normal world trade and movement of paper. The data presented, some of which have not been previously published, will give United States paper manufacturers interested in expanding their export trade, an opportunity to evaluate the current situation. All of the data given in the graphs and tables are based on records of 1937, the most recent pre-war year for which complete data are available.

"The series of ten circular charts headed, 'Apparent Consumption,

PAPERBOARD MILL CENSUS In Tons

CONTAINER BOARDS

GRADES	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Liners - Jute	818,600	726,200	604,000	735,100	737,300	888,700	1,029,300	1,047,600	706,000	819,900
Liners-Kraft Cyl:	174,800	194,800	171,300	227,000	232,900	262,600	285,900	290,800	238,900	278,400
Kraft Four.	93,900	150,900	190,300	252,300	257,700	289,600	389,600	461,600	604,600	776,100
Total Kraft	268,700	345,700	361,600	479,300	490,600	552,200	675,500	752,400	843,400	1,054,500
Total Liners	1,087,300	1,071,900	965,600	1,214,400	1,227,900	1,440,900	1,704,800	1,800,000	1,549,400	1,874,400
Chip-Corrugating	70,200	63,800	53,000	61,700	66,100	70,200	98,000	96,800	76,500	76,900
Solid Fibre	332,500	295,500	228,100	242,900	209,100	210,700	237,000	246,800	177,600	208,600
Total Chip	402,700	359,300	281,100	304,600	275,200	280,900	335,000	343,400	254,300	285,500
.009 Straw	375,500	343,800	299,700	386,200	393,700	472,800	557,000	586,800	473,200	585,800
.009 Kraft	10,100	40,000	73,300	73,700	89,000	114,400	141,900	148,300	200,700	252,200
Total .009	385,600	383,800	373,000	459,900	482,700	587,200	698,900	735,100	673,900	838,000
TOTAL	1,875,600	1,815,000	1,619,700	1,978,900	1,985,800	2,309,000	2,738,700	2,878,500	2,477,600	2,997,900

BOXBOARDS

Folding Box	917,600	903,200	772,300	877,900	921,300	1,029,300	1,191,700	1,218,300	1,145,700	1,366,200
Set-up Box	601,900	575,400	500,900	573,900	527,600	552,200	613,700	597,300	546,500	582,000
Total	1,519,500	1,478,600	1,273,200	1,451,800	1,448,900	1,581,500	1,805,400	1,815,600	1,692,200	1,948,200
Other	529,000	475,200	396,100	473,500	493,600	627,000	752,600	819,200	732,800	949,500
TOTAL	2,048,500	1,953,800	1,669,300	1,925,300	1,942,500	2,208,500	2,558,000	2,634,800	2,425,000	2,897,700

SUMMARY

JUTE, Chip, Boxboard	3,615,600	3,365,000	2,835,700	3,318,300	3,294,900	3,784,200	4,413,000	4,528,300	3,777,300	4,452,200
Straw, Etc.	308,500	403,800	453,300	585,900	683,400	733,300	883,700	985,000	1,125,300	1,443,400
KRAFT, Liner, .009 Etc	3,924,100	3,768,800	3,289,000	3,904,200	3,928,300	4,517,500	5,296,700	5,513,300	4,902,600	5,895,600
TOTAL ALL GRADES	3,924,100	3,768,800	3,289,000	3,904,200	3,928,300	4,517,500	5,296,700	5,513,300	4,902,600	5,895,600

Production and Imports,' shows in graphic form the extent to which the ten largest paper consuming countries of the world are able to meet their requirement through their own production and to what extent they depend upon foreign imports. The consumption of the countries included amounts to approximately 28,500,000 tons of paper and paperboard, or 88 per cent of the 1937 total world consumption of 32,500,000 tons. The figures above

each circle represent the apparent consumption in tons of 2,000 pounds.

"From the table headed 'Production, Imports, Exports and Apparent Consumption of the Principal Paper Consuming Countries of the World—1937,' and the previously mentioned graphs it will be noted that Germany, Japan, and Italy were practically self-sufficient, while the United States, Great Britain, France, Belgium, Canada, Netherlands, and

the South American countries were dependent upon foreign imports. Russia and China are not included as very little authoritative information is available regarding them.

"The total imports of the principal importing countries of the world, amounting to almost 6,000,000 tons of paper and paperboard, and the source of their imports are shown in the table headed 'Principal Importing Countries of the World and Source of Imports—1937.'

"In addition to the countries included in the table headed 'Production, Imports, Exports, etc.,' Australia, China, India, New Zealand and South Africa normally import considerable quantities of paper. In the interest of brevity these countries are not included in this tabulation. The larger part of their imports come from Norway, Sweden, Finland, Canada and the United States. More detailed information in this respect is available to those interested.

"There appears to be little doubt that the United States paper industry has ample capacity to expand its production and develop new foreign markets. Paper and paperboard production in the United States in 1939, a record year, amounted to approximately 13,500,000 tons, while the capacity of the industry is estimated to be in the neighborhood of 17,000,000 tons per year on a 310-day basis."

PRODUCTION, IMPORTS, EXPORTS AND APPARENT CONSUMPTION OF THE PRINCIPAL PAPER CONSUMING COUNTRIES OF THE WORLD — 1937

(Tons of 2,000 pounds)

Countries	Production	Imports	Exports	Apparent Consumption
United States.....	12,837,000	3,427,100	232,400	16,031,700
Great Britain.....	2,987,000	1,461,500	228,100	4,220,400
Germany.....	3,934,200	15,300	489,900	3,459,600
Japan.....	1,522,800	69,200	135,800	1,456,200
France.....	964,500	91,000	77,400	978,100
South American Countries.....	253,000	500,000		753,000
Italy.....	562,900	21,400	19,300	565,000
Belgium.....	267,300	118,200	35,200	352,300
Netherlands.....	590,000	128,200	380,000	338,200
Canada.....	4,345,400	53,000	4,065,000	333,400
TOTAL.....	28,264,100	5,884,900	5,661,100	28,487,900

PRINCIPAL IMPORTING COUNTRIES OF THE WORLD AND SOURCE OF IMPORTS — 1937

(Tons: 2,000 pounds)

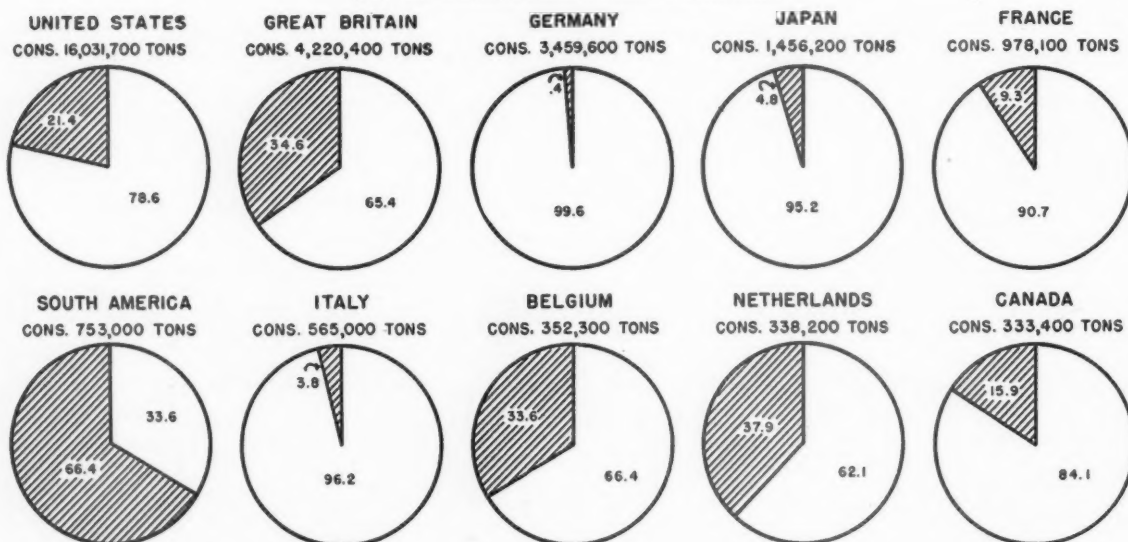
	IMPORTING COUNTRIES								Total
	United States	Great Britain	South American Countries	Canada	Netherlands	Belgium	France	Denmark	
TOTAL IMPORTS.....	3,427,100	1,461,500	500,000	53,000	128,200	118,200	91,000	113,800	5,892,800
Source:									
United States.....		20,000	25,000	32,000			2,000		79,000
Canada.....	2,900,000	160,000	107,000						3,167,000
Finland.....	170,000	250,000	87,000		13,000	32,000	10,000	25,000	587,000
France.....	10,000			1,500					11,500
Germany.....	21,000	47,000	50,000*	700	25,000*		16,000		159,700
Newfoundland.....	128,000	215,000							343,000
Norway.....	25,000	90,000	64,000		6,700	16,000	12,000	22,000	235,700
Sweden.....	112,500	233,000	58,000		22,000	25,000	28,000	35,000	511,500
Netherlands.....		241,000					6,200		247,200
Great Britain.....				6,000	2,700		3,800		12,500
Belgium.....				700			8,000		8,700
All Other.....	60,600	205,500	109,000	12,100	58,800	45,200	5,000	33,800	530,000

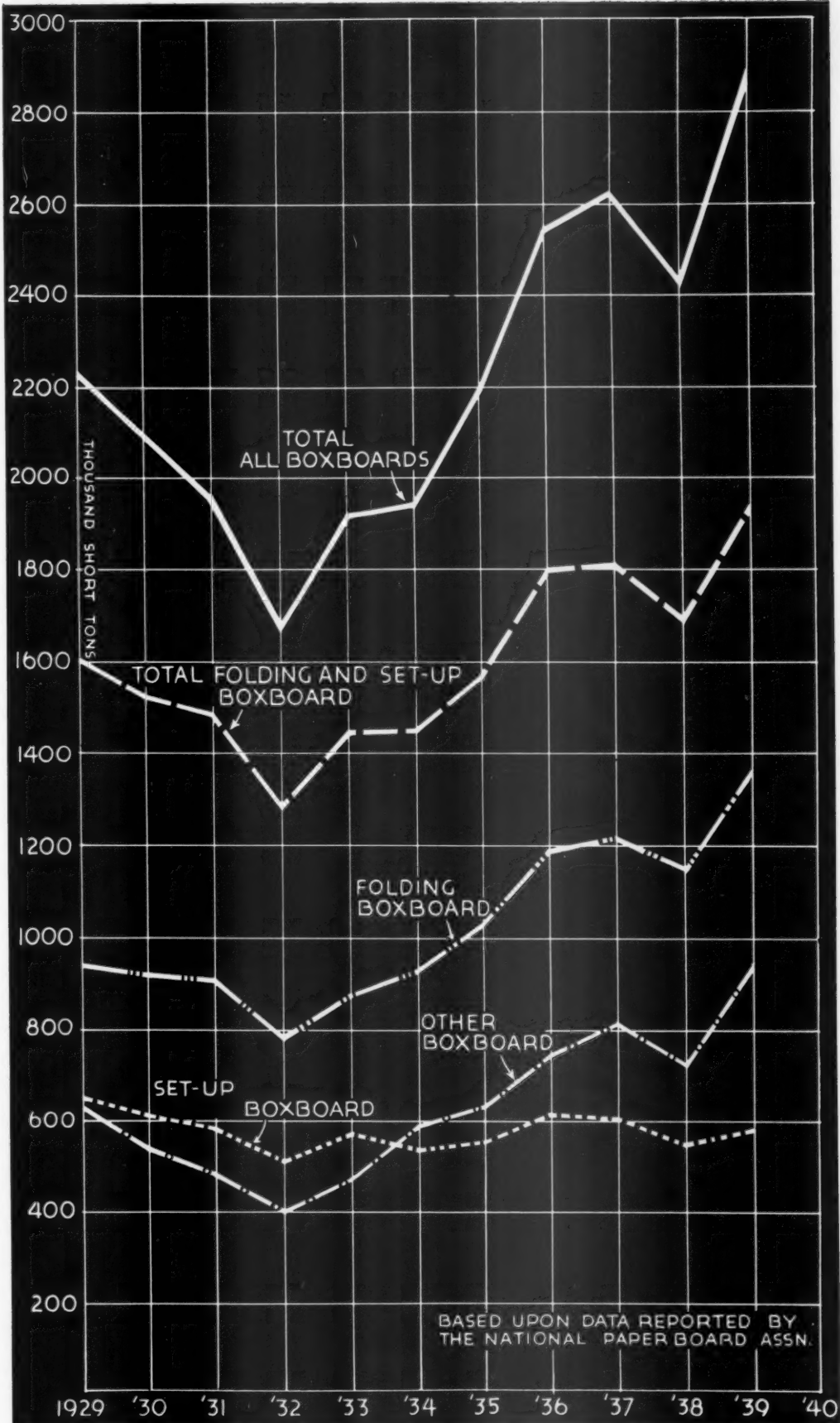
* Estimated.

† In most cases minor quantities from various sources.

APPARENT CONSUMPTION, PRODUCTION AND IMPORTS

79- PRODUCTION LESS EXPORTS IMPORTS
(FIGURES INSIDE CIRCLES INDICATE PERCENTAGES)





"EVERY PAPER PROBLEM IS A FELT PROBLEM"

America—
land of the
FREE—



MATCH!

AMERICA is the land of the free in more ways than one. It's the land of a free people, free speech, a free press and—free matches. Enough matches are now given away in the United States each year to light 120 billion cigarettes.

What made it possible? The development of a paper match strong enough to be struck without breaking—and the widespread use of the match pack as an advertising medium.

Making a good paper match was a paper problem—and a felt problem. Match board must pass exacting tests of

strength, rigidity and burning qualities. Felts to make it must be open enough to permit high speed production, strong and durable enough for long-run economy, and must at the same time impart a proper finish.

F. C. Huyck & Sons are proud of the part they played in solving these problems, proud that Huyck felts are now used in making so large a portion of America's paper matches. Huyck's 70 years of experience in felt making can help you solve your felt problems. Through our representative in your territory and our field engineers, this experience and all our research facilities are available to you for the asking.



F. C. HUYCK & SONS

ESTABLISHED 1870

KENWOOD FELTS • ALBANY, N. Y.

Pacific Coast Representatives: Pacific Coast Supply Co., Pittock Block, Portland, Ore.; 708 White Bldg., Seattle, Wash.; 343 Sansome St., San Francisco, Calif.

UNITED STATES
Paper Board—Operation, Production, Orders¹
 (.012 of an inch or more in thickness)

Year and Month—1939	—Operation—(Inch hours ¹ — (Based on last dryer width)			—Production—(Short tons)—				Unfilled orders end month (Short tons)
	Rated Capacity	Operated	Per Cent of Capacity	Rated Capacity	Output	Per Cent of Capacity	New orders (Short tons)	
January	17,433,021	10,685,252	61.3	528,263	323,394	61.2	342,408	109,099
February	16,433,327	10,957,222	66.7	499,519	338,803	67.8	338,030	112,801
March	18,861,450	13,090,135	69.4	574,528	421,576	73.4	429,545	124,420
April	17,827,014	12,087,334	67.8	540,124	372,984	69.1	347,575	97,340
May	19,290,234	12,235,709	63.4	585,422	375,772	64.2	372,893	93,643
June	18,682,308	12,262,903	65.6	565,674	376,509	66.6	383,371	95,058
July	18,845,583	11,784,020	62.5	573,662	366,605	63.9	382,682	108,427
August	19,907,551	13,819,625	69.4	612,052	443,226	72.4	454,817	119,502
September	19,257,060	14,171,316	73.6	589,956	445,387	75.5	628,272	290,467
October	19,322,940	15,886,637	82.2	591,487	506,466	85.6	497,834	285,935
November	19,257,060	15,214,305	79.0	589,956	482,808	81.8	414,224	204,800
December	19,392,420	13,815,273	71.2	591,444	429,106	72.6	393,123	173,212
Total (Year 1939)	224,509,968	156,009,731	69.5	6,842,087	4,882,636	71.4	4,984,774	.....
Total (Year 1938)	201,659,468	125,473,369	62.2	6,188,954	3,816,502	61.7	3,827,460	.....
Total (Year 1937)	193,449,553	143,747,844	74.3	5,648,035	4,293,717	76.0	4,163,060	.....
Total (Year 1936)	176,217,757	129,343,411	73.4	5,001,147	3,658,871	73.2	3,720,996	.....
Total (Year 1935)	178,529,564	119,579,631	67.0	4,861,628	3,294,055	67.8	3,281,525	.....
Total (Year 1934)	176,800,951	105,201,235	59.5	4,767,029	2,839,705	59.6	2,807,470	.....
Total (Year 1933)	165,594,126	105,986,270	64.0	4,619,730	2,912,374	63.0	2,913,370	.....
Total (Year 1932)	138,115,824	75,979,629	55.0	3,904,824	2,152,045	55.1	2,148,991	.....
Total (Year 1931)	137,218,968	91,894,961	67.0	3,879,836	2,556,851	65.9	2,527,024	.....
Total (Year 1930)	139,179,840	96,843,592	69.6	3,917,436	2,699,595	68.9	2,685,373	.....

¹Monthly statistics compiled from data furnished by the National Paperboard Association from reports of members, and by manufacturers reporting direct to the Bureau of Census, are presented in the above tables. These statistics were released by Director W. L. Austin, Bureau of the Census, Department of Commerce.

Rated (24-hour) capacity data for paperboard machines in inch hours in this report are based on last dryer width whereas those shown in the reports for 1932 and earlier years were based on maximum trim width. The capacity data vary according to the normal number of working days in each month.

PAPERBOARD PRODUCTION BY ZONES
1939

Short Tons

Zone	Liners	Corr. Material	Chip	Folding Boxboard	Set-Up Boxboard	Other	Total
New England	25,876	3,808	0	151,038	70,764	59,256	310,742
Middle Atlantic	431,798	151,854	71,319	392,380	312,739	294,977	1,655,067
Lake States	445,189	341,490	141,095	660,353	150,550	383,260	2,121,937
South	809,191	266,273	14,540	35,577	21,617	134,236	1,281,434
Western	162,384	74,511	58,580	126,847	26,357	77,751	526,430
Total	1,874,438	837,936	285,534	1,366,195	582,027	949,480	5,895,610

Source: National Paperboard Association. The western group includes all states west of Mississippi River with the exception of Texas, which is included in the southern group.

PAPERBOARD PRODUCTION BY ZONES
1938

Short Tons

Zone.	Liners	Corr. Material	Chip	Folding Boxboard	Set-Up Boxboard	Other	Total
New England	31,100	9,300	5,300	132,400	58,700	37,900	274,700
Middle Atlantic	382,100	123,100	70,300	329,200	318,600	229,000	1,452,300
Lake States	369,600	282,900	120,700	552,500	124,100	312,300	1,762,100
South	629,000	200,000	11,100	27,600	17,000	81,600	966,300
Western	135,900	58,100	46,600	105,800	23,500	63,700	433,600
Total	1,547,700	673,400	254,000	1,147,500	541,900	724,500	4,889,000

Source: National Paperboard Association. The western group includes all states west of the Mississippi River with the exception of Texas, which is included in the southern group.

Newsprint in 1939

● In his summary of "North American Newsprint in 1939," Royal S. Kellogg, secretary of the News Print Service Bureau, said in part:

"North American news print production in 1939 was 4,116,000 tons, of which 2,869,000 tons or 69.7 per cent were made in Canada, 939,000 tons or 22.8 per cent in the United States and 308,000 or 7.5 per cent in Newfoundland. The total was an increase of 403,000 tons or 10.9 per cent over 1938, but was still 827,000 tons or 16.7 per cent below the peak production year of 1937.

"The gain in Canadian production last year over 1938 was 245,000 tons or 9.3 per cent; the increase in the United States was 119,000 tons or 14.6 per cent, and that in Newfoundland 40,000 tons or 14.8 per cent. The output in the United States was just about the average since 1932 which was the latest year in which one million tons was made.

"Continental manufacture of newsprint last year was equivalent to about 73 per cent of capacity, but United States mills had considerably higher operating ratio than those in Canada. Mills of all grades in the United States which report to the American Paper & Pulp Association had an average operating ratio of about 85 per cent in 1939.

"Shipments from North American newsprint mills during 1939 totaled 4,085,000 tons or 31,000 tons less than production. This discrepancy was due chiefly to conditions in Newfoundland since United States and Canadian mills

combined shipped within 2,000 tons of as much paper as they made last year, so that for these mills stocks on hand December 31, 1939, were 182,000 tons compared with 180,000 tons a year earlier and were in no wise excessive.

Exports

● "Exports of newsprint paper from Canada during 1939 amounted to 2,659,000 tons, a gain of 234,000 tons or 9.6 per cent over 1938. Of these exports, 2,206,000 tons or 83 per cent were shipped to the United States, according to the Ottawa reports. This was a gain of 268,000 tons or 13.8 per cent over shipments to the United States in 1938. Overseas exports of Canadian newsprint in 1939 were 452,000 tons, a decrease of 34,000 tons from exports in 1938, due of course, to war causes. For the same reasons overseas shipments from Newfoundland last year amounting to 177,000 tons were 27,000 tons less than in 1938.

"The 452,000 tons of Canadian newsprint which went outside of North America last year were shipped to the extent of 177,000 tons or 39.2 per cent to the United Kingdom, 154,000 tons or 34.1 per cent to Australia-New Zealand, 54,000 tons or 11.9 per cent to Central and South America, and 25,000 tons to Africa.

"Exports of newsprint paper from the United States last year while only 13,000 tons, were 116.7 per cent more than the 6,000 tons exported in 1938. This is a good example of how misleading in-

formation might be given were one to deal only in percentages instead of actual quantities. Last year's exports of newsprint from the United States went most largely to China, the Philippines, Cuba, Central and South America.

Imports

"Imports of newsprint paper into the United States in 1939, according to official reports from Washington, amounted to 2,615,000 tons of which 84 per cent came from Canada, 12 per cent from Europe and 4 per cent from Newfoundland.

"The 310,000 tons of newsprint paper which came into the United States last year from Europe were to the extent of 195,000 tons from Finland, 62,000 tons from Sweden and 42,000 tons from Norway. This was a gain of 44,000 tons from Finland and 31,000 tons from Norway over 1938, and a decrease of 10,000 tons in the imports from Sweden during the same period. Imports of newsprint paper from Germany totaling 6,000 tons ceased with the beginning of the war as did the importation of newsprint from France which prior to that time had been some 3,000 tons. There had also been 1,000 tons shipped from the United Kingdom to America before the war started.

"Altogether imported newsprint constituted the equivalent of 74 per cent of United States consumption in 1939.

Stocks

● "As previously noted, stocked of United States and Canadian mills on December 31, 1939, were 182,000 tons. On the same date stocks on hand or in transit to the newspapers reporting to the American Newspaper Publishers As-

U. S. Newsprint Industry's Share of Domestic Market Decreased 1.2% in 1939

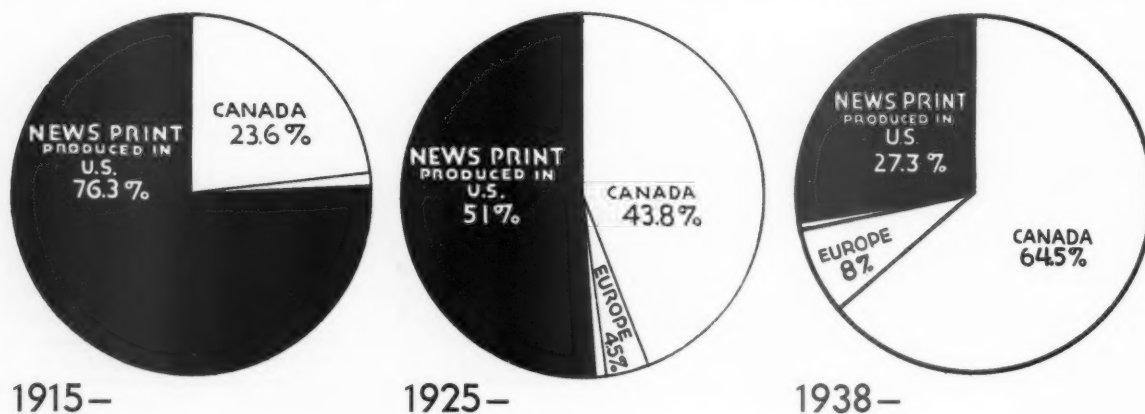
United States newsprint mills supplied 26.1 per cent of the total newsprint available for consumption in the country in 1939 as against 27.3 per cent in 1938 and 22 per cent in 1937.

Each circle represents the total amount of newsprint in the United States available for consumption in that year, with the percentage of consumption supplied by domestic production and imports.

From 1915 through 1937 the percentage of the domestic market supplied by U. S. newsprint producers declined from 76.3 per cent in 1915 to 22 per cent in 1937. In 1938 the trend was reversed and American producers furnished 27.3 per cent of the country's newsprint consumption despite the fact that domestic production was the lowest in 35 years. The gain was due to the greater percentage reduction in newsprint imports than in domestic production. U. S. newsprint production in 1938 was a little less than half the production in 1926.

U. S. newsprint production in 1939 was 119,000 tons more than in 1938, 939,000 tons against 820,000 tons. Production was lower in but three other years since 1913, in 1935, 1936 and 1938. Exports in 1939 of 13,000 tons were 7,000 tons larger than in 1938. Imports from Canada of 2,206,000 tons were 268,000 tons larger than the 1,938,000 tons imported in 1938. From Newfoundland imports were 104,600 against 94,000 tons in 1938, and imports from Europe were 310,000 tons against 243,000 tons in 1938.

Total newsprint available for consumption in the U. S. in 1939 was 3,546,600 tons against 3,089,000 tons in 1938.



SOURCES OF NEWSPRINT USED IN THE UNITED STATES

(Tons in Round Numbers)

Source: News Print Service Bureau

	U. S. Production	U. S. Exports	Canada	Imports into the U. S. From Newfoundland	Europe	Available for Consumption
1913	1,305,000	43,000	219,000	-----	1,000	1,482,000
1914	1,313,000	61,000	310,000	-----	5,000	1,567,000
1915	1,239,000	55,000	367,000	-----	1,000	1,552,000
1916	1,315,000	76,000	468,000	-----	-----	1,707,000
1917	1,359,000	94,000	558,000	-----	1,000	1,824,000
1918	1,260,000	97,000	596,000	-----	-----	1,759,000
1919	1,375,000	111,000	628,000	-----	3,000	1,895,000
1920	1,512,000	49,000	679,000	1,000	50,000	2,193,000
1921	1,225,000	17,000	657,000	-----	135,000	2,000,000
1922	1,448,000	26,000	896,000	-----	133,000	2,451,000
1923	1,485,000	16,000	1,109,000	-----	200,000	2,778,000
1924	1,481,000	17,000	1,197,000	4,000	156,000	2,821,000
1925	1,530,000	23,000	1,295,000	20,000	133,000	2,955,000
1926	1,684,000	19,000	1,658,000	94,000	100,000	3,517,000
1927	1,486,000	12,000	1,776,000	89,000	122,000	3,461,000
1928	1,418,000	11,000	1,926,000	114,000	116,000	3,563,000
1929	1,392,000	19,000	2,195,000	132,000	96,000	3,796,000
1930	1,282,000	10,000	1,989,000	156,000	134,000	3,551,000
1931	1,157,000	10,000	1,754,000	160,000	151,000	3,212,000
1932	1,009,000	8,000	1,533,000	114,000	144,000	2,793,000
1933	946,000	11,000	1,545,000	95,000	153,000	2,728,000
1934	961,000	23,000	1,956,000	107,000	147,000	3,148,000
1935	912,000	23,000	2,062,000	124,000	197,000	3,272,000
1936	921,000	15,000	2,422,000	87,000	243,000	3,658,000
1937	946,000	17,000	2,899,000	124,000	294,000	4,246,000
1938	820,000	6,000	1,938,000	94,000	243,000	3,089,000
1939	939,000	13,000	2,206,000	104,600	310,000	3,546,600

sociation amounted to 326,000 tons, a total of 508,000 tons for the two groups. A year earlier the corresponding total for United States and Canadian newsprint manufacturers and A. N. P. A. publishers was 495,000 tons. On the other hand, at the current rate of consumption the publishers at the end of December, 1939, had two days' less supply than a year earlier. The stock situation is a normal one with nothing to cause any particular worry to either producer or user.

Consumption

● "The consumption of newsprint paper in the United States in 1939 was not as great as many anticipated at the beginning of the year. Those who forecast an increase in general business activity of between 15 and 25 per cent were correct, but they did not guess rightly in assuming that such an increase in general business might bring an in-

crease of 5 to 10 per cent in newsprint consumption. It was a reasonable expectation according to previous experience.

As nearly as can be estimated, approximately 3,550,000 tons of newsprint were used in the United States last year. This was a gain of about 3 per cent over 1938. Newsprint consumption and population in the United States yearly since 1924 are calculated as follows:

Year.	Population	Tons	Newsprint Paper Used Per Capita
1924	113,202,000	2,737,000	48.4 lbs.
1925	114,867,000	2,943,000	51.2 lbs.
1926	116,532,000	3,307,000	56.8 lbs.
1927	118,197,000	3,445,000	58.2 lbs.
1928	119,862,000	3,515,000	58.7 lbs.
1929	121,526,000	3,780,000	62.2 lbs.
1930	123,091,000	3,563,000	57.9 lbs.
1931	124,113,000	3,245,000	52.3 lbs.
1932	124,974,000	2,840,000	45.4 lbs.
1933	125,770,000	2,690,000	42.8 lbs.
1934	126,626,000	3,058,000	48.3 lbs.
1935	127,521,000	3,300,000	51.7 lbs.
1936	128,429,000	3,650,000	56.8 lbs.
1937	129,257,000	3,830,000	59.3 lbs.
1938	130,215,000	3,458,000	53.1 lbs.
1939	(?) 131,125,000	3,550,000	54.1 lbs.

"There is a slight uncertainty about the 1939 population figure used in the foregoing table because the Census Bureau in Washington made no estimate as of July 1 that year as is customary. It is not far from correct, however, on the basis of recent population trends.

"Among the reasons for the comparatively small newsprint consumption last year were the small increase in newspaper advertising, the numerous suspensions or mergers of daily papers and continued reductions in roll width and other economies by publishers. The use of narrower rolls by publishers is probably equivalent to a reduction in consumption of 8 per cent compared with the roll widths used 20 to 25 years ago. A striking example of this kind is furnished by the *Daily News*, New York's

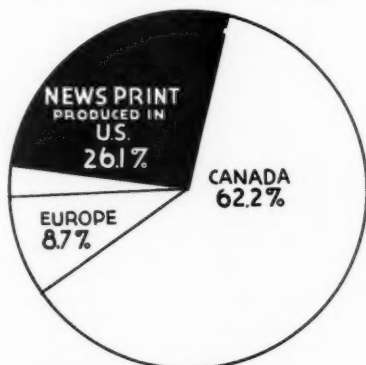
well-known tabloid. By putting the date-line at the side instead of at the top of its page, the *Daily News* estimates a saving in consumption of over 3,000 tons of paper per year through the use of a 61-inch instead of a 62-inch roll.

Newspaper Circulations

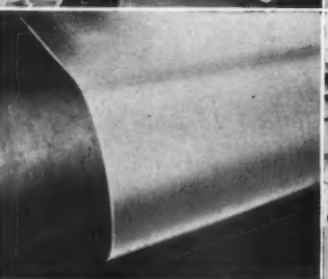
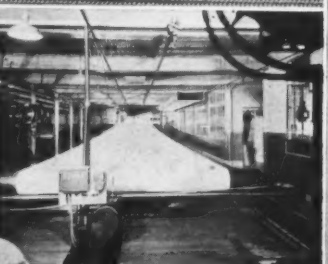
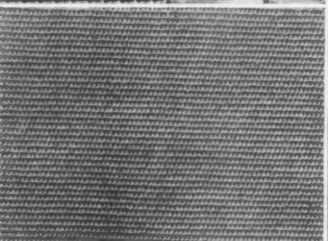
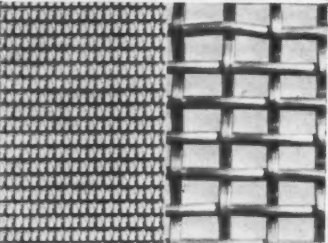
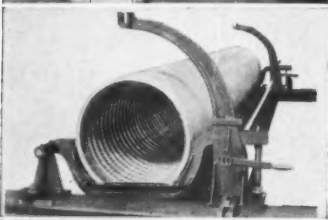
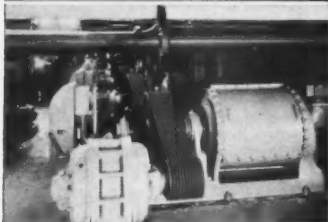
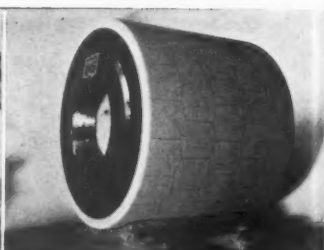
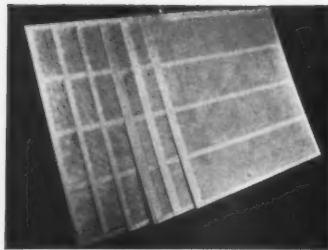
● "The compilation of net paid circulations of English language papers in the United States recently completed by Editor & Publisher is most interesting. Covering 1,888 dailies it shows a total of 39,670,000 copies during the year ending September 30, 1939. This was a slight increase over the circulation during the preceding year, notwithstanding 51 cases of suspensions or mergers—mostly the former—during 1939. On the other hand, 524 Sunday newspapers during the twelve months ending September 30, 1939, had aggregate circulations of 31,519,000 copies. This was 3.4 per cent more than during the preceding year and the largest Sunday newspaper circulations ever reported, exceeding by 17 per cent the number of copies circulated in 1929. Daily circulations were also slightly more in total than in 1929, the loss of 3 per cent in the evening papers during the ten years having been more than counterbalanced by the gain of 7 per cent in the circulation of morning papers.

"Notwithstanding the mortality in the daily publishing field, there was a net increase of 86 newspapers in the United States last year according to Ayers' Directory. The combined total of dailies, weeklies, semi-weeklies and tri-weeklies is said to be 13,281.

"Altogether the figures upon newspaper circulations are encouraging for prospects of newsprint consumption whenever there is substantial gain in advertising volume. Until there is such gain, cir-



1939—



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Dandy Rolls	Splicing Tissue
Dyestuffs	Sulphur
Felts & Jackets	Testing Instruments
Gauges	Valves
Jordans	V-Belt Drives
Paper Scales	Washer Cylinders
Perforated Plates	Wires & Wire Cloth
Pulpstones	Winders

PACIFIC COAST SUPPLY CO.

SAN FRANCISCO
PORTLAND
SEATTLE

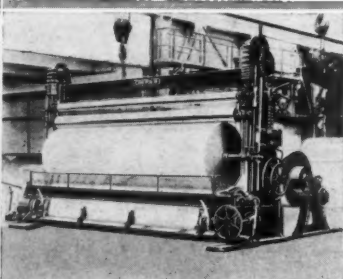
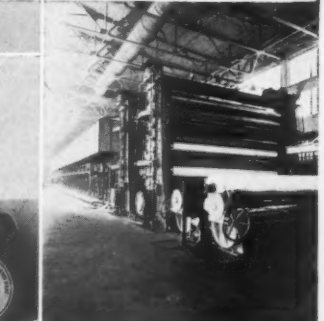
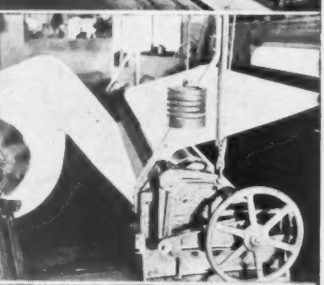
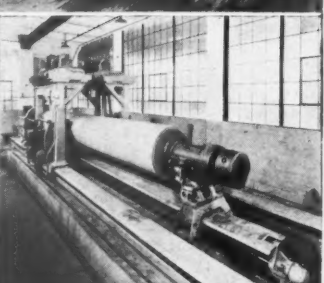
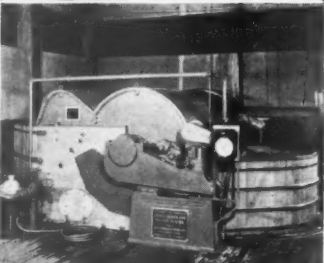


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Norton Company
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J. J. Plank & Co.
F. W. Roberts Mfg. Co.
Texas Gulf Sulphur Co.
Union Screen Plate Co.

Control Equipment Corporation



culation increases are of little consolation to newspaper publishers.

Advertising

● "Advertising last year was conspicuous in two ways, i.e., the slight increase in printed advertising and the large increase in radio advertising. The former was not encouraging to the manufacturers of the paper used by newspapers and periodicals.

"Newspaper advertising in the 60 cities covered by the compilation of Media Records increased 1.6 per cent in 1939 over 1938. There were four months—January, February, September and November—in which newspaper advertising lineage was less in 1939 than in the corresponding months of 1938, and even in December when there was a larger retail and Christmas trade there was no more newspaper advertising last year than the year before.

"Periodical advertising last year ran much the same course as newspaper advertising with an aggregate lineage of only 2.8 per cent more than in 1938. There were decreases in January, February and March compared with the previous year and heavy gains in July and August which were offset by much smaller increases later. January, 1940, started off a little better with an increase in periodical advertising of some 5 per cent over January, 1939. However, January, 1939, was 15 per cent below January, 1938.

"When we come to radio we get a different story. In every month last year radio advertising revenue was greater than in the corresponding month of any preceding year, so predictions as to the saturation point in radio publicity will

have to be made by someone with more temerity than the present writer.

"The reported expenditures by advertisers for radio time over the National, Columbia and Mutual networks last year were \$83,114,000 or 16 per cent more than in 1938. The national total expenditure for radio advertising in 1939, including minor chains, local stations, talent and follow-up might easily have been \$180,000,000 or 30 per cent more than the amount spent for advertising space in magazines.

"Nearly all of the products largely advertised by radio are consumers' goods. Since the increase in the consumption of consumers' goods in the United States in 1939 was probably not more than 10 per cent and there was a 16 per cent increase in the advertising of such goods over the radio, it is reasonable to conclude that this accounts to a considerable extent for the failure of newspaper and periodical advertising to increase proportionately last year.

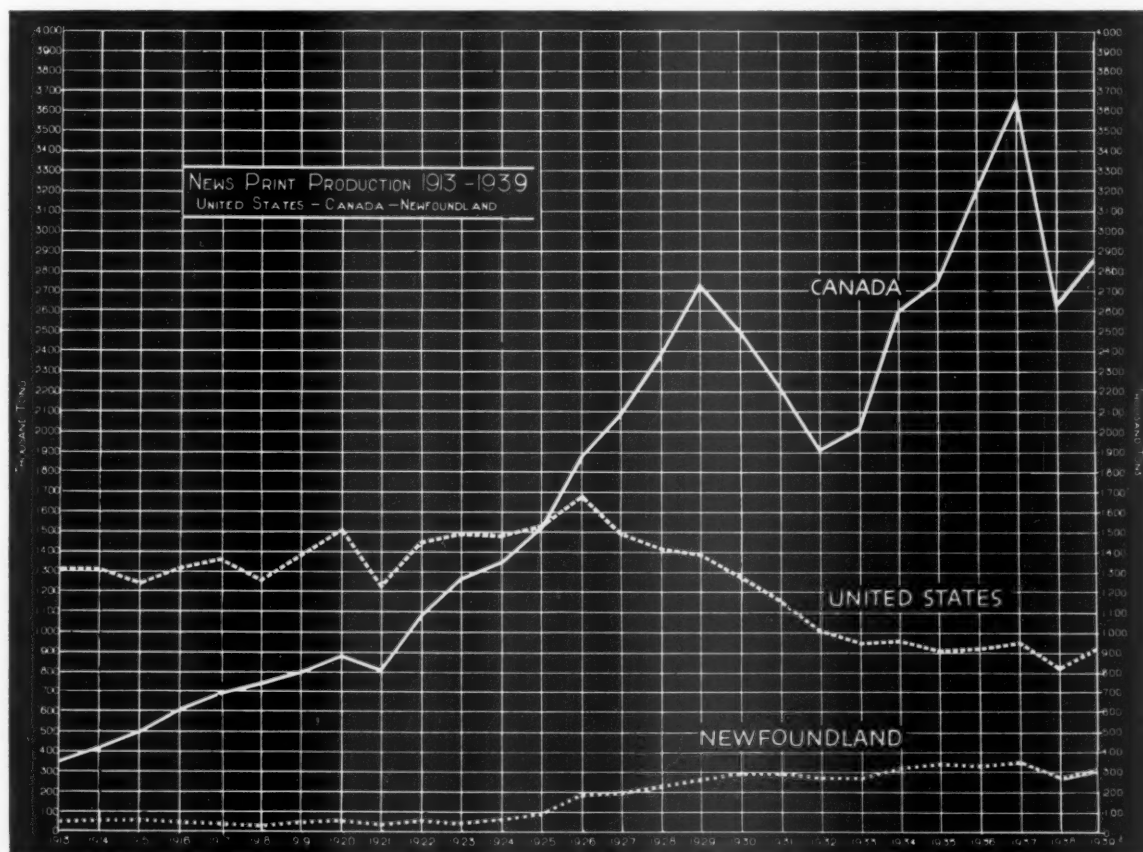
Outlook

● "The first quarter of 1940 in the United States opens with extensive and varied industrial activity carried over from the last quarter of 1939—and the spark which started that was the outbreak of war in Europe. How long this activity will continue is utterly beyond prediction. Temporarily, as expected, there is some slowing up from the December pace. It seems certain that there will be a large steel output this year, that automobile production will be in heavy volume and that aircraft and shipbuilding will go to new levels. The railroads have the most freight cars on order in fourteen years. The greatest demand

bank deposits on record and low money rates might be the basis for great business expansion.

"There is substantial basis for the opinion, however, that there will not be sustained general business improvement—aside from specific war cases—until there is a sustained rise in commodity prices. Commodity prices rose quickly following the outbreak of war in Europe, but the rise was not great and since then there has been much wavering in price levels. Now they are about 7 per cent above this time last year. It does not appear probable that there will be any large and general increase in commodity prices for some time to come. Such current war buying as there is in the United States is on no such extravagant and erratic basis as during World War I. There is also the very general desire and disposition to avoid the excesses which characterized many price situations the other time. The accompanying chart shows that newsprint prices have been below the wholesale commodity price level since 1932.

"Throughout 1940 we may expect to hear frequent repetition of the time-worn statement that business is bad in an election year. This, however, is more fiction than fact. Charts of every presidential election year since 1900 show that ups and downs in such years follow no general rule whatever. There have been presidential election years in which business improved straight through; others in which it fell off; and others in which it went both ways. The more generally conservative trend which is becoming evident in United States politics should, if anything, be encouraging to business in 1940.



Foreign Pulp Supplied 71.4% Of U. S. Market in 1939

American producers sold 28.6%, an increase of 3.94% over 1938 — Domestic sales of domestic pulp sets new record at 808,339 short tons — Scandinavian countries supplied 46% of all pulp sold in U. S. in 1939 (Soda pulp excluded)

UNITED STATES wood pulp producers increased their share of the domestic market for pulp in 1939 by 3.94 per cent, from 24.66 per cent of a total of 2,257,261 short tons sold in this country in 1938 to 28.6 per cent of a total of 2,825,684 short tons sold in 1939 (soda pulp not included). The United States pulp mills share of the pulp sold in 1939 to American paper mills, rayon yarn mills, manufacturers of transparent cellulose sheeting and to producers of plastics, amounted to 808,339 short tons as compared with 556,153 tons sold in 1938 and 621,717 short tons sold in 1937.

Foreign producers of wood pulp supplied the United States market with 2,017,345 short tons or 71.4 per cent of the total bought in 1939 as compared with 1,701,108 short tons or 75.34 per cent in 1938 and 2,384,212 short tons or 79.32 per cent in 1937.

10.6% Gain Since 1935

● Producers of wood pulp in the United States for sale on the domestic market have increased their share of their own home market by 10.6 per cent since 1934 when they sold but 18 per cent or 388,456 tons of the total of 2,187,120 tons sold and the foreign producers supplied 82 per cent or 1,978,664 tons.

In 1935 United States pulp mills sold 443,811 short tons or 18 per cent of the total of 2,377,442 tons, the same percentage as in 1934. There was, however, a fractional gain as the percentage was actually 18.22 per cent. Foreign producers in 1935 supplied 81.87 per cent or 1,933,631 tons of the total sold in this country.

The next year, 1936, United States producers were able to make another small gain, selling 530,173 short tons or 18.72 per cent of the total of 2,795,265 short tons sold during the year. Foreign producers sold 81.28 per cent of the total or 2,265,092 tons.

In 1937 the share of the American pulp mills rose to 20.68 per cent or 621,717 short tons out of a total of 3,005,929 short tons sold. This was a percentage gain of 1.96 per cent over the 1936 percentage of 18.72. Foreign producers in 1937 held 79.32 per cent of the market with sales of 2,384,212 short tons.

The year 1938 saw the share of American producers increase nearly 4 per cent over 1937 with 20.66 per cent or 556,153 short tons out of a total of 2,257,261 short tons bought by American purchasers. Foreign pulp producers' share dropped to 75.34 per cent of the total or 1,701,108 short tons.

U. S. Producers' Biggest Year

● The 808,339 short tons of wood pulp sold to United States buyers in 1939 by American wood pulp producers was the largest tonnage ever sold in the domestic market. It was 252,186 tons or 45.3 per cent greater than the 556,153 short tons sold in the United States in 1938, and 186,622 tons or 30 per cent over the previous high year of 1937 when 621,717 tons were sold.

In the five years since 1934 sales of wood pulp by United States producers to domestic buyers have risen 419,883 short tons or 108 per cent from 388,456 tons in 1934 to 808,339 tons in 1939. In 1935 these sales were 443,811 tons; in 1936, 530,173 tons.

Of the 894,930 short tons (including 86,591 short tons of soda pulp) shipped to domestic buyers by United States pulp mills in 1939, 628,885 tons were sulphites or 70.2 per cent. Bleached sulphite shipments accounted for 426,447 tons or 47.6 per cent.

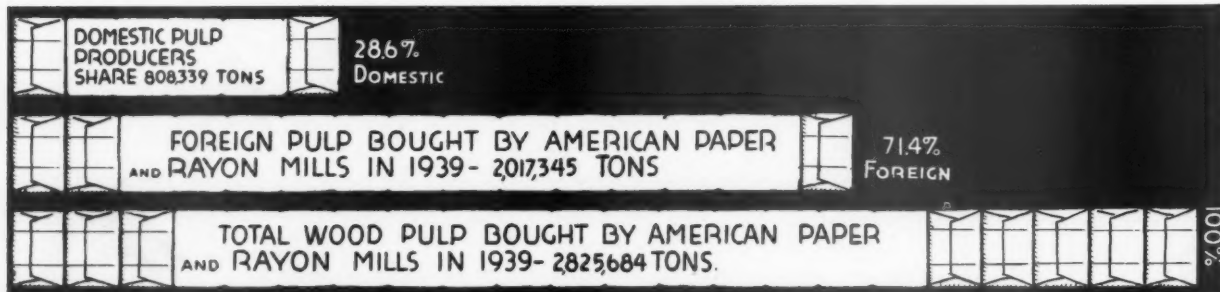
Rayon grade bleached sulphite pulps accounted for 106,760 tons or 11.9 per cent of all pulp sold, while paper grades of bleached sulphite totaled 319,687 tons, 35.7 per cent. Unbleached sulphite sales amounted to 202,438 tons, 22.6 per cent of all pulp sold.

Bleached sulphate pulp sales of 73,408 short tons accounted for 8.2 per cent of all sales and unbleached sulphate sales of 61,955 tons were 6.9 per cent of the total. Soda pulp with sales of 86,591 tons accounted for 9.6 per cent of the sales of all grades, while groundwood sales of 29,798 tons were 3.3 per cent of the total.

In 1939 —

**American Mills Bought 2,825,684 Tons of Wood Pulp
Of This Total FOREIGN Pulp Mills Supplied 2,017,345 Tons
Of This Total AMERICAN Pulp Mills Supplied 808,339 Tons**

(Soda Pulp not included)



Increases by Grades

● The sulphite pulps with a total sale of 628,885 tons in 1939 showed an increase of 183,655 tons or 41 per cent over the 1938 sales of 445,230 tons.

Bleached sulphite sales of 426,447 tons were 105,217 tons, 32.7 per cent higher than the 321,230 tons sold in 1938.

Rayon grades of bleached sulphite sales amounted to 106,760 tons in 1939, 8,558 tons more than the 98,202 tons sold in 1938. This was an increase of 8.7 per cent.

Paper grades of bleached sulphite with 319,687 tons in 1939 exhibited an increase of 96,659 tons or 43.3 per cent over the 223,028 tons sold in 1938.

Unbleached sulphite pulp sales amounted to 202,432 tons in 1939, 78,438 tons more than the 124,000 tons sold in 1938, or an increase of 62 per cent.

Bleached sulphate pulp was sold in the amount of 73,408 tons last year compared with 41,923 tons sold in 1938. The increase was 75 per cent or 31,485 tons.

Unbleached sulphate pulp sold in 1939 amounted to 61,955 tons against 24,000 tons in 1938. This was an increase of 37,955 tons or 157 per cent over 1938.

Soda pulp sales amounted to 86,591 tons last year as compared with 71,147 tons in 1938. The increase last year was 15,444 tons, 21.7 per cent.

Groundwood sales in 1939 totaled 29,798 tons, a decrease of 202 tons below the 30,000 tons sold in 1938.

Last year was the second year the U. S. Customs segregated the im-

ports of rayon grades of bleached sulphite pulp in reporting the imports. The United States Pulp Producers Association made the second segregation. The rayon grade figures, given above, have not been deducted in figuring the United States and foreign percentages, although the rayon grades are not sold to paper mills. To deduct them would prevent an accurate comparison of the foreign and domestic producers' shares of the American pulp market with the percentages for previous years when this segregation was not made either in imports or in domestic production data.

Had the 106,760 tons of rayon grades been deducted from domestic sales and the 88,052 tons subtracted from foreign sales, the share of the total remaining paper pulp market in 1939 going to domestic pulp producers would have been 701,579 tons or 26.66 per cent of the total of 2,630,872 tons of paper pulp sold in the United States last year. The foreign share would have been 1,929,293 tons or 73.34 per cent.

On the same basis the American producers' share of the paper pulp total in 1938 of 2,093,840 tons would have been 457,951 tons or 21.87 per cent, and the foreign producers' share would have been 1,635,889 tons or 78.13 per cent.

Again, figuring on a strictly paper pulp basis the United States pulp mills would have shown an increase in 1939 over 1938 of 243,628 tons, or 53.2 per cent in the tonnage of pulp sold. The increase in the sales of paper pulp by foreign producers in 1939 over 1938 would have been 293,404 tons or 17 per cent.

Soda pulp is not included in these comparisons as data on domestic sales of this grade were not available for publication prior to 1937, and to include them in 1938 and 1939 comparisons would have introduced errors.

Scandinavia Sold 46%

● The three pulp producing countries of Scandinavia, Sweden, Finland, and Norway, supplied 1,305,245 short tons out of the total of 2,825,684 short tons of wood pulp sold in the United States in 1939 (soda pulp not included). This was 46 per cent of all pulp sold.

In 1938 these same countries sold 1,136,273 short tons out of a total of 2,257,261 short tons sold in this country or 50.3 per cent, excluding soda pulp from the total.

Market for American Paper in Argentina

● Prior to the outbreak of the European war paper imported into Argentina from the United States was largely limited to bond, writing, and book papers. A considerable amount of toilet paper also entered this market from the United States. With the outbreak of the war the principal European sources of supply of bond and writing papers have been eliminated completely with the exception of the United Kingdom and, to a lesser degree, France. While Argentina produces the bulk of all staple classes of paper utilized, it still depends on foreign sources for the better grades. It would appear, therefore, that as long as the war continues there should be a much greater demand for American paper including heavy, first grade kraft paper previously imported from the Scandinavian countries, for local manufacture of cement and similar heavy-duty paper bags. (Office of the American Commercial Attache, Buenos Aires).

PROPORTION OF UNITED STATES MARKET FOR PULP SUPPLIED BY AMERICAN PULP MILLS AND FOREIGN PULP MILLS*—1937-1938-1939

TOTALS By Grades.	1937 Tons—2,000 Lbs.		1938		1939	
	Pulp Produced By U. S. Mills for Sale in Domestic Market—1937	Pulp Imported Into the United States 1937	Pulp Produced By U. S. Mills for Sale in Domestic Market—1938	Pulp Imported Into the United States 1938	Pulp Produced By U. S. Mills for Sale in Domestic Market—1939	Pulp Imported Into the United States 1939
Total—All Grades (Except Soda Pulp) ¹	772,693	2,394,539	692,142	1,710,513	963,162	2,026,297
Total—Sulphite	543,607	1,431,575	497,543	1,025,981	685,774	1,135,302
Bleached Sulphite	408,938	511,961	358,354	337,659	464,296	474,109
Rayon	—	—	102,424	65,219	106,760	88,052
Other	—	—	259,960	272,440	319,687	386,057
Total—Unbleached Sulphite	134,669	919,614	140,189	688,322	219,012	661,193
Total—Sulphate	55,386	734,215	75,167	516,262	143,614	654,419
Bleached Sulphate	18,978	111,862	47,025	90,173	77,786	108,252
Unbleached Sulphate	36,408	622,353	28,013	426,082	65,793	546,167
Total Groundwood	20,720	218,422	30,203	158,865	30,194	227,432
Soda	100,976	10,327	72,990	9,405	86,591	8,952
Total—Miscellaneous, Damaged and Off-Quality	2,004	—	15,472	—	16,189	192

*Table prepared by Pacific Pulp & Paper Industry from United States Pulp Producers Association data on wood pulp production, shipments and stocks; and from import data supplied by the Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce.

¹Soda Pulp included in 1937 and 1938 figures only. Rayon figures included in 1938 figures only.

²Pulp Produced By U. S. Mills for Sale in Domestic Market includes that part of the stocks on hand at the end of the year intended for future shipment to domestic buyers.



SULPHUR and its Destiny

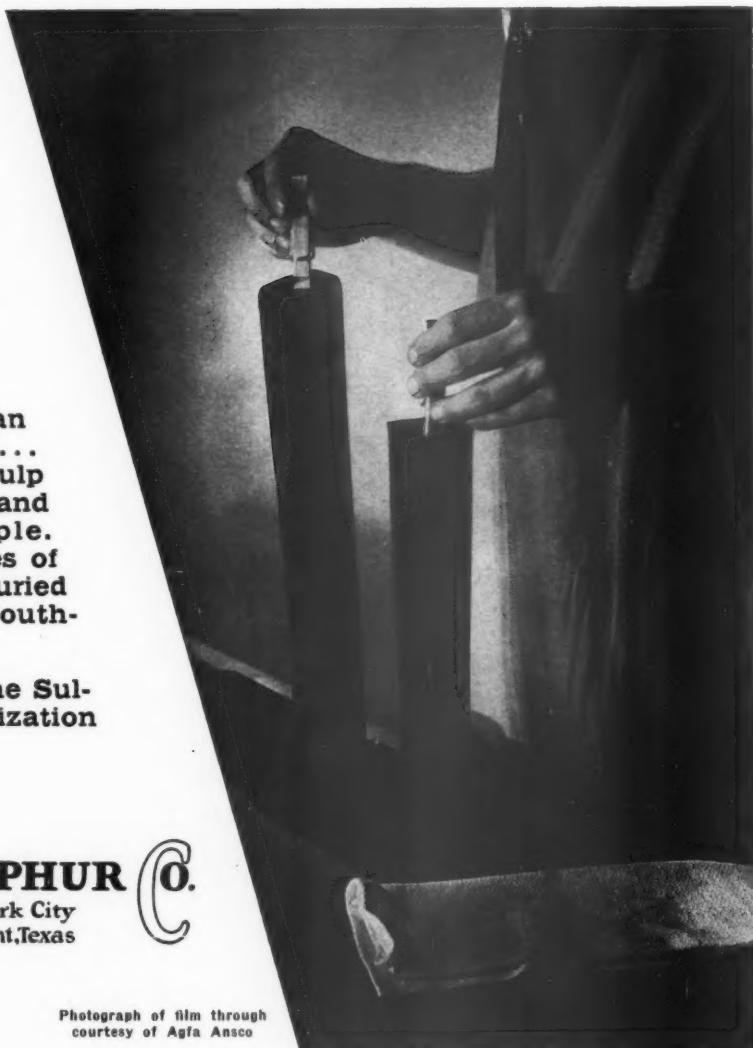
*... through the
Pulp Industry to
Photographic Films*

Sulphur, the purest that can be obtained commercially ... then "acid" and sulphite pulp ... finally cellulose, films, and fun for millions of people. That's one of the destinies of the Sulphur that lies buried deep under the domes of South-eastern Texas.

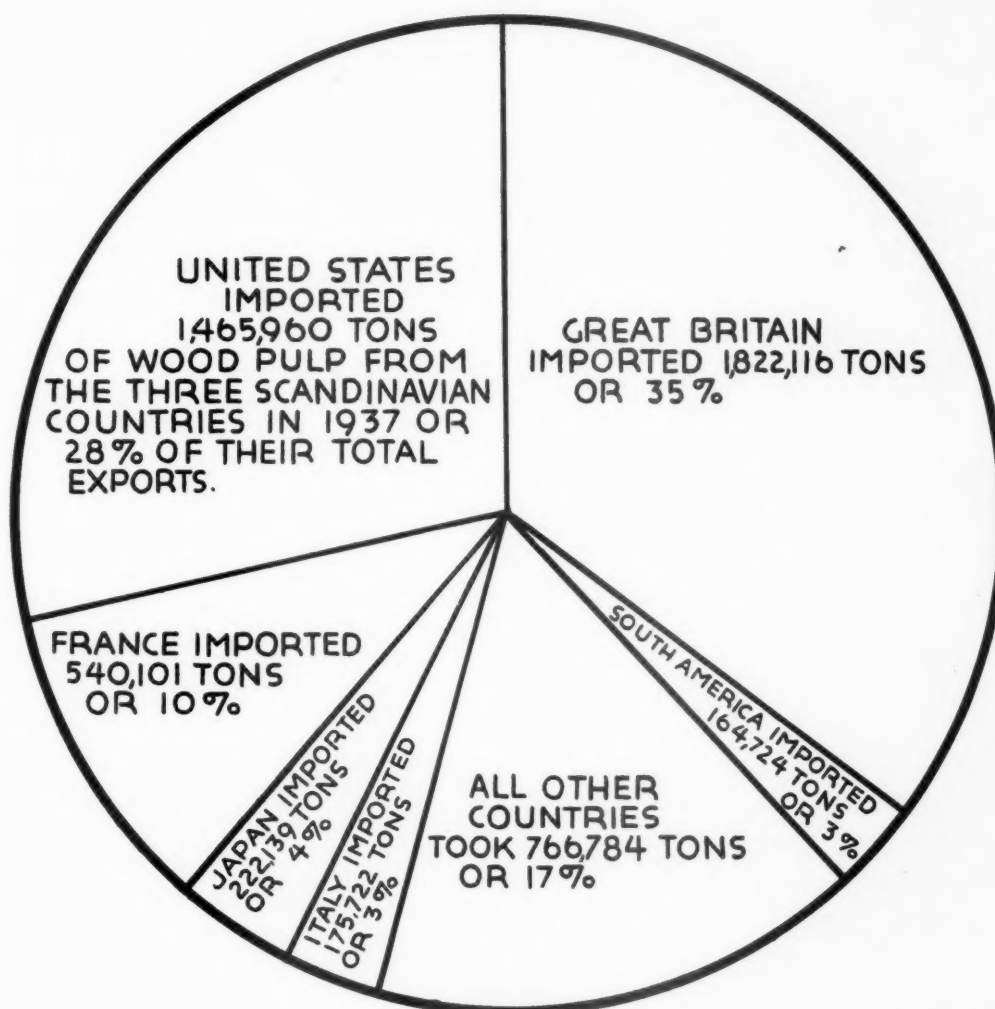
The pulp industry, like the Sulphur industry, serves civilization in more ways than one.

TEXAS GULF SULPHUR CO.
75 E. 45th Street New York City
Mines: Newgulf and Long Point, Texas

Photograph of film through
courtesy of Agfa Ansco



The Distribution of Scandinavian Pulp Exports In 1937



An analysis of the world distribution of Scandinavian wood pulp exports is of special interest at this time when the war has practically stopped exportation from Sweden, Norway and Finland.

The tonnages given in the chart represent the total of all grades exported from all three countries, Sweden, Norway and Finland in 1937 to the major consuming markets. Statistics for 1937 are used as they are the latest accurate statistics available. Although 1937 was a peak year for pulp exports from these three countries the percentages exported to each market are approximately the same as in other years.

Tonnage figures were taken from "World Wood Pulp Statistics, 1927-1937," published in 1938 by the United States Pulp Producers Association.

Pulp and Paper Imports Increased in 1939

Wood Pulp Imports Rose 18.5% over 1938 but were 15.3% below imports in 1937 — Paper Imports up 14.6% over 1938.

THE imports of both pulp and paper into the United States in 1939 showed increases over 1938 but were below 1937.

Wood pulp imports, all grades, totaled 2,026,297 short tons valued at \$75,914,237, as compared with 1938 imports of 1,710,514 short tons valued at \$72,777,808. The increase in 1939 tonnage amounted to 315,783 tons or 18.4 per cent. In value the increase was \$3,136,429 or 4.3 per cent.

The 1939 pulp imports were below those of 1937 in both tonnage and value. The decrease was 15.4 per cent or 368,242 tons below the 1937 pulp imports of 2,394,539 tons. The decrease in value was greater, being 22.7 per cent below the \$98,269,213 value of the 1937 imports.

Pulp imports in 1939 were the third highest on record. They were exceeded only by the tonnages brought into the United States in 1936 and 1937 when 2,277,829 tons and 2,394,539 tons were imported respectively. The value in 1936 was \$82,881,000.

Two factors account for the small rise, 4.3 per cent, in value of the 1939 imports over those in 1938 as compared with the 18.4 per cent rise in tonnage. The first is declining prices of imported pulp during the first nine months of 1939 in connection with "married" contracts. The second is the proportionately larger increase in the cheaper grades of pulp, groundwood and unbleached kraft.

In comparison with the imports in 1932 the lowest year of importations

since 1924, the 1939 importations were 544,454 tons or 36 per cent higher and \$28,956,453 or 61.7 per cent higher than the 1,481,959 short tons valued at \$46,921,373 imported in that year.

Imports of chemical wood pulp in 1939 totaled 1,798,865 tons valued at \$70,709,192 as compared with 1,531,649 short tons valued at \$69,177,299. This was an increase in 1939 of 267,216 tons, 17.44 per cent, and \$1,531,893 or 2.2 per cent over 1938.

As compared with the record year of 1937 the imports of chemical pulp were 377,252 short tons, 17 per cent less. In value the 1939 chemical pulp imports were \$23,217,753 or 24.7 per cent less.

In 1939 chemical pulp imports for the tenth year exceeded a million and a-half tons.

Unbleached Sulphite Declined

● Unbleached sulphite pulp was the only grade to show a decline in 1939 from 1938 imports. In tonnage the drop was from 688,322 tons in 1938 to 661,193 tons in 1939, a decline of 27,129 tons or 3.94 per cent. In value the reduction was from \$26,883,449 to \$23,395,772, a decline of \$3,487,677 or 12.9 per cent. The 1938 unbleached sulphite pulp imports declined 25.1 per cent from a high of 919,689 tons in 1937. The decline in 1938 unbleached sulphite value from 1937 was \$7,779,604, 22.4 per cent.

The average declared value of unbleached sulphite pulp imported into the United States in 1939 was \$35.38 per ton. In 1938 it was \$39.06

per ton; in 1937, \$37.60; in 1936, \$34.03; in 1935, \$34.66; and in 1934, \$32.26.

Bleached Sulphite Shows Largest Increase

● Of the grades imported in 1939 bleached sulphite showed the largest increase over 1938 imports in tonnage with imports of 474,109 tons against 337,660 tons in 1938. The increase of 136,449 tons was 40.3 per cent over 1938 imports. In value the 1939 bleached sulphite pulp imports did not increase so much percentage-wise. The value of \$24,262,444 was \$4,159,500 or 20.6 per cent over the \$20,102,944 value of the 1938 imports of the same grade.

The bleached sulphite imports in 1938 of 337,660 tons were 174,301 tons or 34 per cent less than the 511,961 tons imported in 1937.

Last year was the second year of segregation of the bleached sulphite pulp for rayon and for paper by the United States Custom Service. Imports of rayon grades of bleached sulphite pulp in 1939 amounted to 88,052 short tons valued at \$6,588,321 as compared with imports of 65,219 short tons valued at \$5,651,548 in 1938. The increase in 1939 in tonnage was 22,833 tons or 35 per cent. The increase in value amounted to \$936,773 or 16.5 per cent.

Imports of bleached sulphite pulp for papermaking in 1939 totaled 386,057 tons and were valued at \$17,674,123. This was an increase in tonnage of 113,616 tons or 41.7 per cent over the 272,441 tons imported in 1938. In value the 1939 imports at \$17,674,123 were \$3,222,727 or 22.3 per cent larger than the value of \$14,451,396 for the 1938 imports.

The average declared value of bleached sulphite (both grades) pulp imported in 1939 was 51.17 per ton as compared with \$59.53 in 1938, 57.51 in 1937, \$50.42 in 1936, \$51.07 in 1935, and \$48.76 in 1934.

Unbleached Kraft Imports Up

● Imports of unbleached sulphate pulp into this country in 1939 rose 28 per cent in tonnage but only 4.3 per cent in value over the imports of the same grade in 1938. The 1939 imports totaled 546,167 tons against 426,089 tons in 1938, an increase of 120,078 tons. The imports last year were valued at \$16,969,338 against \$16,263,679 in 1938, an increase of \$705,659.

The average declared value of unbleached sulphate imports last year was \$31.19 per short ton. This was a considerable decline from the



97% of 1939 U. S. Pulp Imports From Five Countries.



96% of 1938 U. S. Pulp Imports From Five Countries.

\$38.12 per ton average in 1938. Other years compared as follows: \$35.78 in 1937; \$31.10 in 1936; \$30.17 in 1935; and \$28.31 in 1934.

Bleached Kraft Has Second Best Year

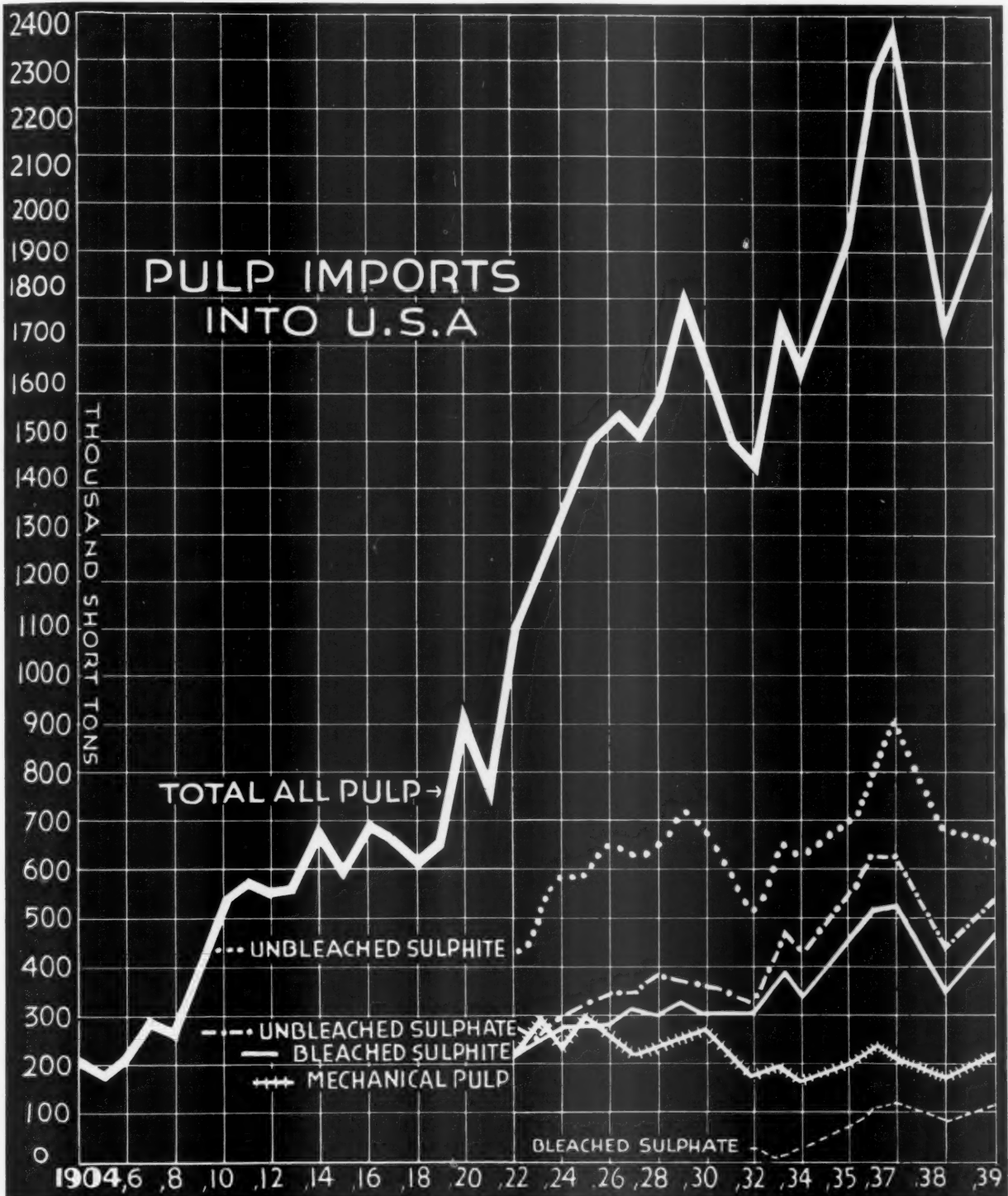
● The imports of bleached kraft pulp last year totaled 108,252 short

tons, 18,079 tons more than the 90,173 tons imported in 1938, but 3,610 tons below the record set in 1937 when 111,862 tons entered this country. The 1939 increase was 20 per cent over 1938.

The value of the 1939 tonnage was \$5,644,342 against \$5,463,598 in

1938, an increase of \$180,744 or 3.3 per cent.

In average value the 1939 imports of bleached sulphate pulp were below 1938 with \$52.13 per ton. In 1938 the average was \$60.58; in 1937, \$62.70; in 1936, \$57.08; in 1935, \$61.35.



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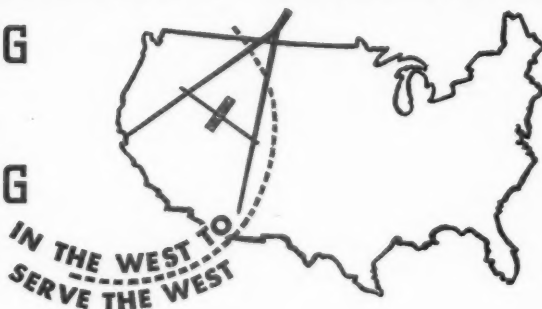
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Soda Pulp Imports Declined

Imports of soda pulp in 1939 declined 453 tons from 9,405 tons in 1938 to 8,952 tons in 1939. The value in 1939 was \$408,426, down \$55,203 from the \$463,629 of the 1938 imports. In 1937 soda pulp imports amounted to 10,327 tons valued at \$536,212; in 1936 imports were 12,737 tons worth \$565,572; in 1935 imports totaled 9,406 tons valued at \$409,636; and in 1934 the soda pulp imports totaled 7,464 tons worth \$304,660.

All of the soda pulp imported into the United States in 1939 came from Canada.

Groundwood Imports Rise

Imports of groundwood pulp into the United States last year aggregated 227,432 short tons valued at \$5,205,045 against 158,865 tons worth \$3,600,509 in 1938. This was an increase of 68,567 tons or 43 per cent. In value the 1939 increase was \$1,604,536 or 44 per cent more.

Imports From Scandinavia 64.4% of Total

The imports of wood pulp into the United States in 1939 from the three Scandinavian countries: Sweden, Finland and Norway, amounted to 1,305,245 short tons or 64.4 per cent of the total imports of 2,026,297 short tons.

Of the total imports Sweden supplied 873,023 short tons valued at \$29,139,534 or 43 per cent; Finland supplied 336,618 short tons valued at \$11,483,401 or 16.6 per cent of the entire total; Norway furnished 95,604 short tons valued at \$3,922,228 or 4.7 per cent of the total.

Canada furnished the United States with 637,953 short tons of wood pulp in 1939 valued at \$28,455,636. This was 31.4 per cent of the total tonnage. Germany supplied 21,142 short tons worth \$788,870 or 1 per cent of the total tonnage. From other countries came 61,957 short tons valued at \$2,124,568 or 3 per cent of the total.

In 1939, 97 per cent of all imports came from five countries: Canada, Sweden, Finland, Norway and Germany, while in the three previous years these countries supplied 96 per cent of the total.

In 1938 Sweden supplied 46.8 per cent of the total imports against 47.1 per cent in 1937; Canada furnished 27.8 per cent in 1938 and 29.7 per cent in 1937; Finland supplied 15 per cent of the pulp imported in 1938 and 11.9 per cent in 1937; Norway's share in 1938 was 4.2 per cent against 4.4 per cent in 1937; Germany's share in 1938 was 2.3 per cent against 2.8 per cent in 1937.

Source: U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce.

UNITED STATES
Wood Pulp Imports by Grades and Countries of Origin—1939
Short Tons

Grade	Canada Tons Value	Finland Tons Value	Germany Tons Value	Norway Tons Value	Sweden Tons Value	Others Tons Value	Total Tons Value
Mechanical Wood Pulp							
Unbleached	162,188 \$ 3,935,193	19,476 \$ 357,452		118 \$ 4,054	44,978 \$ 891,546		226,760 \$ 5,188,245
Bleached		672 16,800					672 16,800
Total	162,188 \$ 3,935,193	20,148 \$ 374,252		118 \$ 4,054	44,978 \$ 891,546		227,432 \$ 5,205,045
Sulphite							
Unbleached	110,144 \$ 4,009,349	115,844 \$ 4,075,264	12,440 \$428,284	14,145 \$ 494,500	374,003 \$13,240,211	34,617 \$ 1,148,164	661,193 \$23,395,772
Bleached							
Rayon	88,052 6,588,321						88,052 6,588,321
Other	164,362 7,959,670	70,611 3,184,588	8,702 360,586	65,516 2,934,381	64,855 2,769,571	12,011 465,327	386,057 17,674,123
Total	362,558 \$18,557,340	186,455 \$ 7,259,852	21,142 \$788,870	79,661 \$ 3,428,881	438,858 \$16,009,782	46,629 \$ 1,613,491	1,135,302 \$47,658,216
Sulphate							
Unbleached	58,116 \$ 2,838,474	121,819 \$ 3,476,437		15,445 \$ 477,808	335,550 \$ 9,694,412	15,137 \$ 482,207	546,167 \$16,969,338
Bleached	46,139 2,716,203	8,196 372,860		280 11,485	53,637 2,543,794		108,252 5,644,342
Total	104,255 \$ 5,554,677	130,015 \$ 3,849,297		15,825 \$ 489,293	389,187 \$12,238,206	15,137 \$ 482,207	654,419 \$22,613,680
Soda	8,952 \$ 408,426						8,952 \$ 408,426
Other Grades						192 28,870	192 28,870
Total	637,953 \$28,455,636	336,618 \$11,483,401	21,142 \$788,870	95,604 \$ 3,922,228	873,023 \$29,139,534	61,957 \$ 2,124,568	2,026,297 \$75,914,237



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UNITED STATES
Wood Pulp Imports by Grades and Countries of Origin—1938
Short Tons

Grade	Canada		Finland		Germany		Norway		Sweden		Others		Total by Grades	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value
Mechanical Wood Pulp														
Unbleached	122,216	\$ 2,749,838	16,757	\$ 374,807			514	\$ 22,352	12,109	\$ 283,491			151,596	\$ 3,430,488
Bleached			115	2,378					7,154	167,643			7,269	170,021
Total	122,216	\$ 2,749,838	16,872	\$ 377,185			514	\$ 22,352	19,263	\$ 451,134			158,865	\$ 3,600,509
Sulphite														
Unbleached	86,625	\$ 3,284,962	117,167	\$ 4,459,879	32,917	\$ 1,134,006	4,892	\$ 215,033	393,661	\$ 15,789,088	53,060	\$ 2,000,481	688,322	\$ 26,883,449
Bleached														
Rayon	65,218	5,651,498									1	50	65,219	5,651,548
Other	101,806	5,412,047	53,201	2,700,287	5,051	247,179	52,589	3,022,265	44,822	2,306,103	14,972	763,515	272,441	14,451,396
Total	253,649	\$ 14,318,507	170,368	\$ 7,160,166	37,968	\$ 1,381,185	57,481	\$ 3,237,298	438,483	\$ 18,095,191	67,853	\$ 2,764,046	1,005,982	\$ 46,986,393
Sulphate														
Unbleached	48,310	\$ 2,281,973	68,922	\$ 2,508,972			12,060	\$ 495,393	296,129	\$ 10,960,877	668	\$ 16,464	426,089	\$ 16,263,679
Bleached	33,992	2,287,011	2,617	165,614			310	16,227	53,254	2,994,746			90,173	5,463,598
Total	82,302	\$ 4,568,984	71,539	\$ 2,674,586			12,370	\$ 511,620	349,383	\$ 13,955,623	668	\$ 16,464	516,262	\$ 21,727,277
Soda	9,405	463,629											9,405	\$ 463,629
Total	467,372	\$ 22,130,958	258,779	\$ 10,211,937	37,968	\$ 1,381,185	70,365	\$ 3,271,270	807,129	\$ 32,501,948	68,701	\$ 2,780,510	1,710,514	\$ 72,777,808

Source: Import Statistics—U. S. Department of Commerce.

U. S. WOOD PULP IMPORTS
Quantity and Value
1922-1939

	Total Bleached Sulphite		Bleached Sulphite Rayon and Special Chemical Grades*		Unbleached Sulphite		Unbleached Sulphate		Bleached Sulphate	
	Long Tons	Value	Long Tons	Value	Long Tons	Value	Long Tons	Value	Long Tons	Value
1939	423,379	\$24,262,444	78,630	\$6,588,321	590,445	\$23,395,772	487,727	\$16,969,338	96,669	\$5,644,342
1938	334,283	20,102,944	59,284	5,651,548	607,504	26,883,449	387,314	16,263,679	81,967	5,463,598
1937	465,372	29,443,254			835,929	34,663,053	565,718	22,269,976	101,682	7,014,450
1936	465,607	25,824,769			715,128	26,778,644	568,827	19,771,988	93,059	5,844,031
1935	383,475	21,934,054			618,872	24,026,340	470,329	15,893,593	75,600	5,193,789
1934	355,484	19,415,304			603,117	21,791,584	429,853	13,733,776	48,275	3,334,713
1933	400,633	19,138,468			643,003	19,946,124	461,890	12,568,367	36,622	2,361,882
1932	311,046	14,727,214			508,088	17,047,669	310,659	9,818,674	23,366	1,975,720
1931	319,518	18,887,719			540,478	23,033,069	344,612	12,035,030	29,683	2,267,090
1930	322,886	22,721,929			665,049	33,193,598	357,551	16,452,381	19,533	1,468,599
1929	334,235	25,338,603			701,456	35,328,982	384,005	20,518,676	15,364	1,139,820
1928	307,771	23,268,421			640,660	32,587,134	381,256	21,170,948	14,590	894,587
1927	311,130	24,224,626			613,856	32,262,845	341,162	20,684,298	10,789	708,712
1926	294,818	23,677,929			628,923	37,032,470	334,803	21,193,459	16,147	1,048,662
1925	286,976	22,527,879			579,284	31,542,079	306,073	18,257,446	17,419	989,933
1924	272,370	21,006,429			562,020	30,092,530	277,994	15,904,350	27,613	1,549,629
1923	250,580	22,245,868			461,853	26,548,431	233,696	15,228,747	15,422	1,080,961
1922	213,093	17,996,401			422,700	22,297,283	275,504	16,085,121	19,440	1,169,570

	Total, All Chemical Pulp		Mechanical Pulp		Total, All Grades Wood Pulp	
	Long Tons	Value	Long Tons	Value	Long Tons	Value
1939	1,606,214	\$70,608,322	203,096	\$5,205,045	1,809,483	\$75,914,237
1938	1,410,449	69,177,299	144,408	3,600,509	1,554,857	72,777,808
1937	1,968,701	93,390,733	198,545	4,342,168	2,167,246	97,732,901
1936	1,842,621	78,839,776	207,050	4,051,224	2,070,547	82,891,000
1935	1,557,026	67,403,602	169,707	3,277,385	1,726,732	70,680,987
1934	1,443,351	58,605,219	169,084	3,245,050	1,612,615	61,850,269
1933	1,545,994	54,184,091	187,750	3,214,919	1,733,744	57,399,010
1932	1,154,907	43,652,916	168,272	3,268,457	1,323,179	46,921,373
1931	1,237,600	56,409,638	188,086	4,498,022	1,425,686	60,907,660
1930	1,369,327	74,140,504	267,193	7,146,290	1,636,520	81,286,794
1929	1,441,110	82,840,220	244,162	6,245,776	1,785,272	89,085,996
1928	1,351,005	78,476,280	222,499	5,443,495	1,573,504	83,919,775
1927	1,280,285	80,124,449	219,285	5,961,821	1,499,570	86,086,270
1926	1,278,548	83,208,851	271,213	8,278,220	1,549,761	91,487,071
1925	1,191,875	73,469,063	295,618	8,517,116	1,487,493	81,986,179
1924	1,142,123	68,678,210	219,571	7,190,129	1,361,694	75,868,339
1923	967,869	65,495,800	267,527	9,280,863	1,235,396	74,776,663
1922	931,992	57,600,844	192,688	5,706,529	1,124,680	63,307,373

Source: U. S. Department of Commerce, Bureau of Foreign & Domestic Commerce.

UNITED STATES

Imports of Unbleached Sulphite—1920 to 1939

(Long Tons—2,240 Pounds)

	Sweden	Canada	Finland	Germany	Norway	All Others	Total
1920	73,957	207,667	13,502	7,193	3,627	2,062	308,008
1921	73,070	88,112	24,696	14,308	3,137	4,770	208,093
1922	193,218	146,690	27,642	16,968	29,134	4,048	422,700
1923	159,065	167,725	58,602	42,851	21,222	12,388	461,853
1924	226,978	192,308	48,007	54,944	26,079	13,554	561,920
1925	193,034	253,670	48,996	42,362	20,639	20,083	579,284
1926	244,925	226,153	61,804	54,305	18,613	23,123	628,923
1927	299,875	179,630	70,106	25,487	17,747	21,011	613,856
1928	297,130	179,751	92,778	23,933	23,456	23,607	640,660
1929	350,152	190,565	109,121	16,822	18,325	16,471	701,456
1930	331,968	180,417	99,881	19,049	20,210	14,152	665,075
1931	300,682	88,604	97,467	22,212	10,195	16,850	536,010
1932	270,894	56,335	95,579	42,330	31,402	19,667	516,207
1933	346,684	76,537	116,019	43,895	26,597	33,271	643,003
1934	314,984	80,867	112,562	47,319	22,529	24,856	603,117

1935-39 IMPORTS IN TONS OF 2,000 LBS.

1935	377,320	67,404	146,166	50,024	16,539	35,573	693,026
1936	425,753	89,359	157,324	39,871	25,391	49,022	786,720
1937	539,488	128,469	123,112	32,740	28,479	67,326	919,614
1938	393,661	86,625	117,167	32,917	4,892	53,060	668,322
1939	374,003	110,144	115,844	12,440	14,145	34,617	661,193

Source: Department of Commerce, Bureau of Foreign and Domestic Commerce.

UNITED STATES

Imports of Bleached Sulphite from 1920 to 1939

By Countries of Origin

(Long Tons of 2,240 Pounds)

Countries—	Canada	Sweden	Germany	Norway	Finland	All Others	Total
1920	86,055	6,788	200	13,435	5,329	2,663	114,470
1921	59,198	5,770	1,335	8,180	7,591	2,931	85,005
1922	122,347	39,340	3,152	39,153	5,393	3,708	213,093
1923	132,138	41,958	12,655	46,849	12,063	4,917	250,580
1924	135,943	64,221	17,054	35,279	6,960	12,912	272,369
1925	137,598	71,577	16,662	48,111	4,130	8,898	286,976
1926	152,764	58,623	25,944	45,416	2,739	9,332	294,818
1927	171,280	46,369	25,341	49,928	4,595	13,617	311,138
1928	176,807	36,237	39,592	40,212	1,500	13,578	307,926
1929	187,469	47,199	45,471	39,312	7,306	7,478	334,235
1930	181,195	43,916	46,101	36,758	7,335	7,358	322,693
1931	185,037	49,063	47,155	18,011	8,922	7,923	316,111
1932	150,589	46,735	38,185	46,971	11,708	24,340	318,528
1933	194,754	65,264	32,564	56,303	22,420	29,328	400,633
1934	179,320	59,253	34,661	46,878	20,054	15,318	355,484

1935-1939 IMPORTS IN TONS OF 2,000 LBS.

1935	225,773	69,237	30,231	52,407	29,550	22,225	429,423
1936	281,062	67,309	34,792	70,950	31,131	26,924	512,168
1937	286,504	62,100	35,996	55,614	47,433	24,214	511,961
1938	167,024*	44,822	5,051	52,589	53,201	14,972	337,660
1939	252,414**	64,855	8,702	65,516	70,611	12,011	474,109

Source—Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce.

*Includes 65,218 tons Rayon pulp.

**Includes 88,052 tons Rayon pulp.

PACIFIC COAST

Imports of Pulpwood

1939

Customs District.	Pulp—Rough				Pulpwood—Peeled				Pulpwood—Chipped		Pulpwood—Rossed	
	Spruce		Other		Spruce		Other		Cords	Value	Cords	Value
Washington	568	\$2,543	2,201	\$8,022	181	\$758	15,873	\$62,665	44,059	\$57,040	-----	-----
Total—All imported through the State of Washington Customs District—62,882 cords, valued at \$131,028.												

Source: U. S. Department of Commerce, Bureau of Foreign & Domestic Commerce.

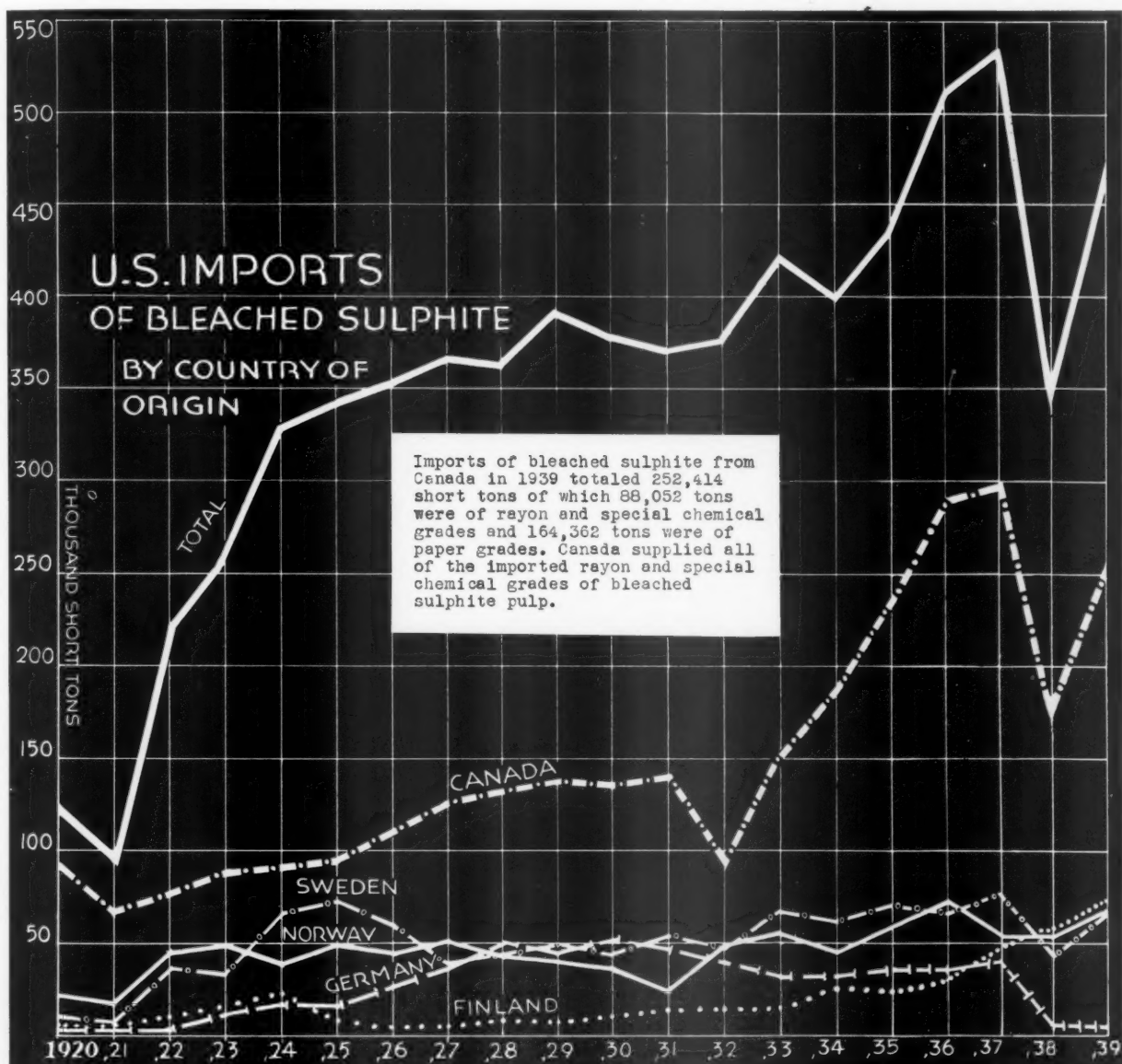
UNITED STATES
Imports of Bleached Sulphate Pulp—By Countries of Origin—1930-1939
 (Long Tons of 2,240 Lbs.)

	Canada	Finland	Germany	Norway	Sweden	Others	Total
1930	12,505	2,445	256	—	—	387	22,108
1931	22,940	2,263	160	28	7,851	—	33,242
1932	19,872	1,522	—	324	1,648	—	23,366
1933	24,778	2,249	—	242	9,159	—	36,428
1934	30,804	2,740	—	452	14,279	—	48,275

1935-39 IMPORTS IN TONS OF 2,000 LBS.

1935	51,199	4,113	—	28	29,262	56	84,658
1936	55,244	5,440	—	230	41,461	—	102,375
1937	55,212	9,200	—	—	47,450	—	111,862
1938	33,992	2,617	—	310	53,254	—	90,173
1939	46,139	8,196	—	280	53,637	—	108,252

Source—Department of Commerce, Bureau of Foreign and Domestic Commerce.

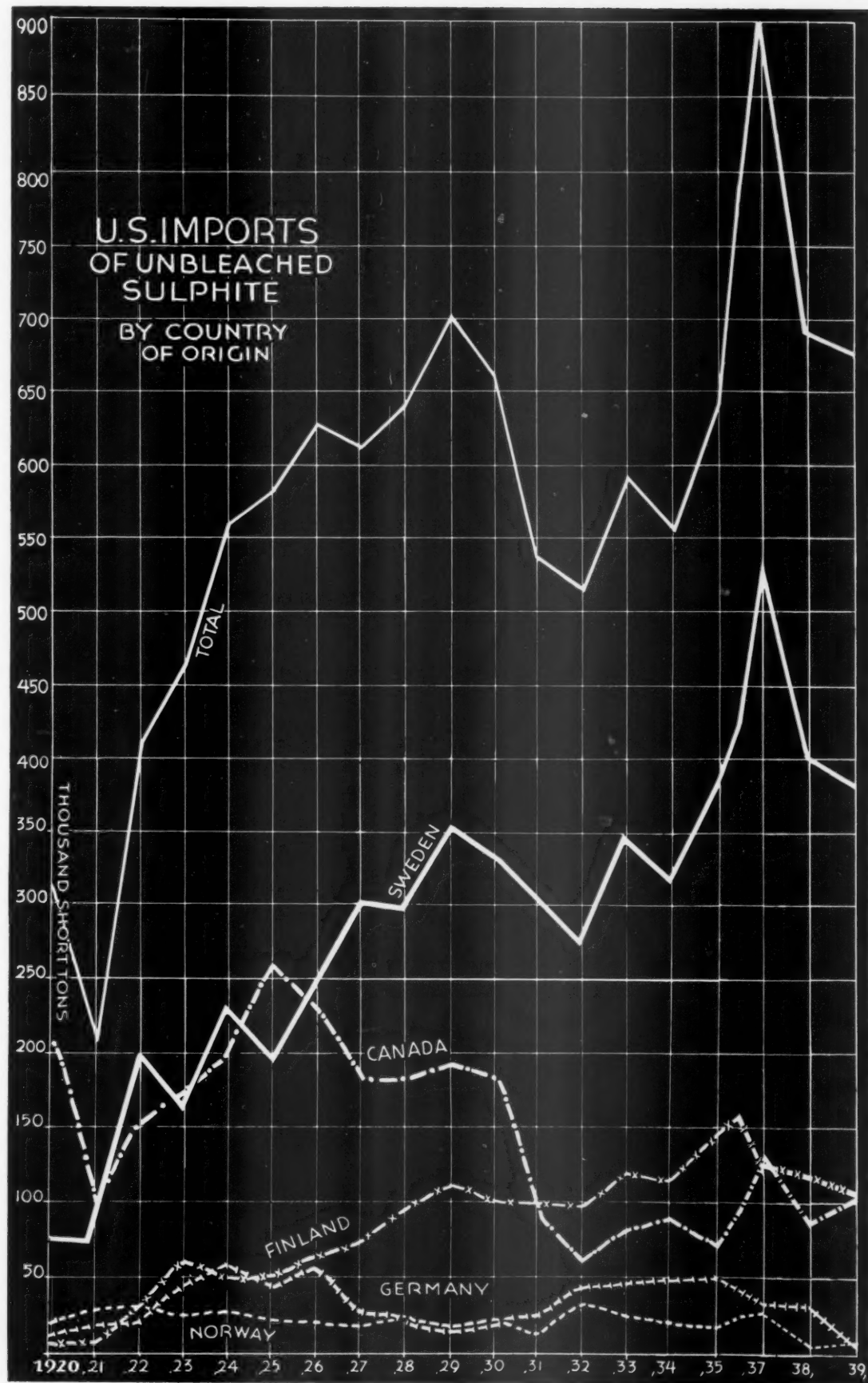




HIGH GRADE BLEACHED SULPHITE PULP

Annual Capacity Approximately 165,000 Tons

SOUNDVIEW PULP COMPANY
EVERETT, WASHINGTON



PULP

Perkins, Goodwin & Co.
ESTABLISHED 1846
30 ROCKEFELLER PLAZA • NEW YORK
CHICAGO OFFICE: CHICAGO DAILY NEWS BLDG.

PAPER

PACIFIC COAST PULP IMPORTS—1939

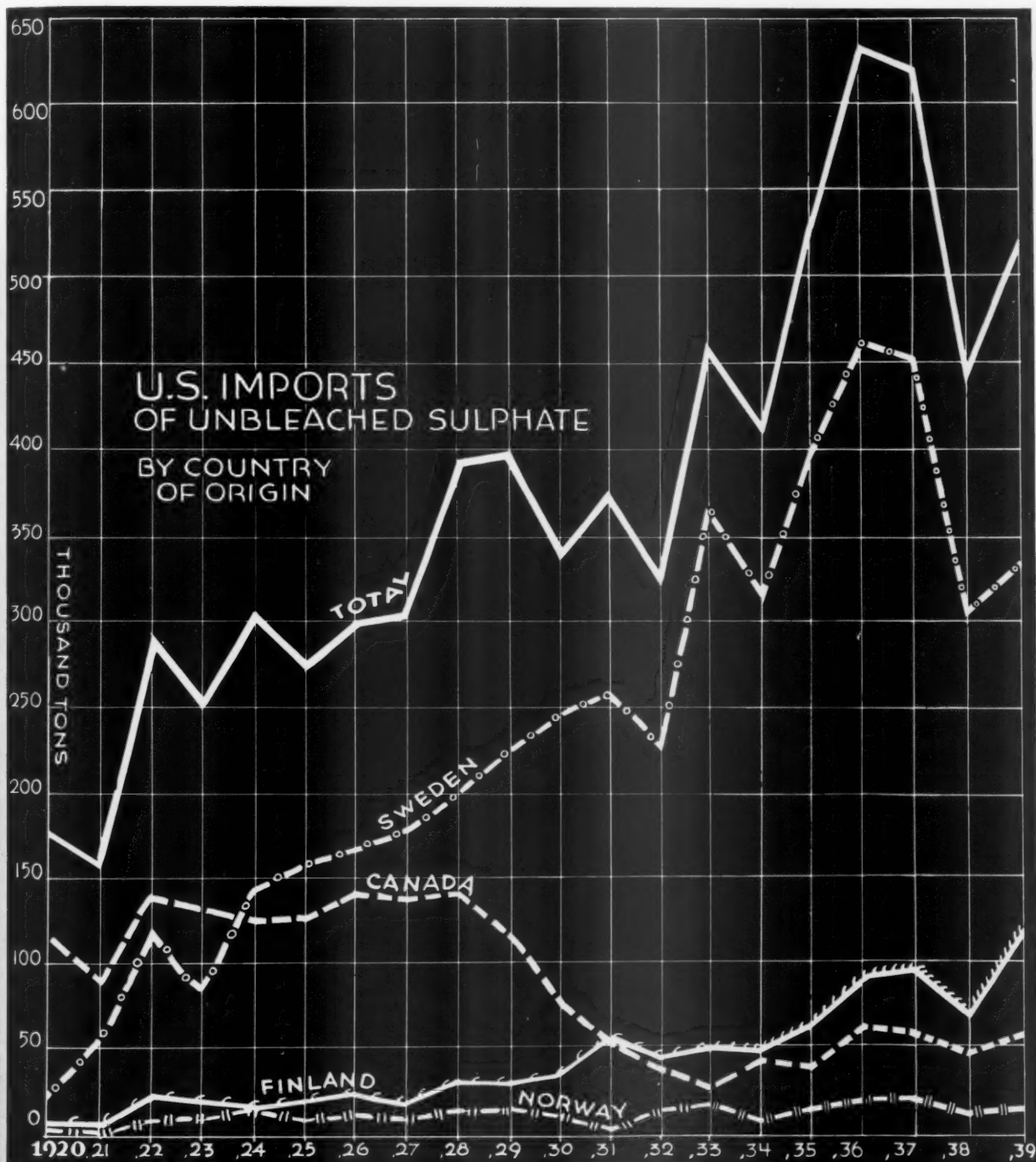
(Short Tons)

Customs District	Unbleached Sulphite		Bleached Sulphite		Other Sulphite		Unbleached Sulphite		Unbleached Groundwood		Bleached Groundwood		Totals	
	Tons	Value	Rayon & Special Chemical Tons	Grades Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value
Washington	601	\$ 13,770	5,638	\$376,789	24,040	\$924,854	4,942	\$168,452	563	\$ 12,218			30,279	\$1,315,413
San Francisco	6,170	151,653					624	12,169					11,675	332,323
Oregon					57	2,256							681	14,425
Los Angeles	13,856	423,694	299	12,906	170	5,690	6,320	146,917	4,619	84,753	273	6,184	25,537	680,144
Total	20,627	\$589,117	5,937	\$389,695	24,267	\$932,800	11,886	\$327,538	5,182	\$ 96,971	273	\$ 6,184	68,172	\$2,342,305

168 tons of Bleached Sulphate Pulp valued at \$7,189 entered Oregon Customs District during 1939.

446 tons of Bleached Sulphate Pulp valued at \$19,042 entered Los Angeles Customs District during 1939.

Source: U. S. Department of Commerce, Bureau of Foreign & Domestic Commerce.




ST. REGIS KRAFT CO.

Manufacturers of
**FULL BLEACHED
KRAFT PULP**

More and more users of high grade paper and cellulose materials are learning the advantages of ST. REGIS FULL BLEACHED KRAFT PULP manufactured from WESTERN hemlock, the raw material that has gained for other types of Pacific Coast wood-pulps so favorable a reputation in the world markets.

**ST. REGIS
KRAFT COMPANY**
TACOMA, WASHINGTON



Many new advanced features have been incorporated in methods and mechanical devices employed in our Tacoma, Washington, mill to insure latest up to date process in manufacturing FULL BLEACHED KRAFT PULP from WESTERN hemlock.

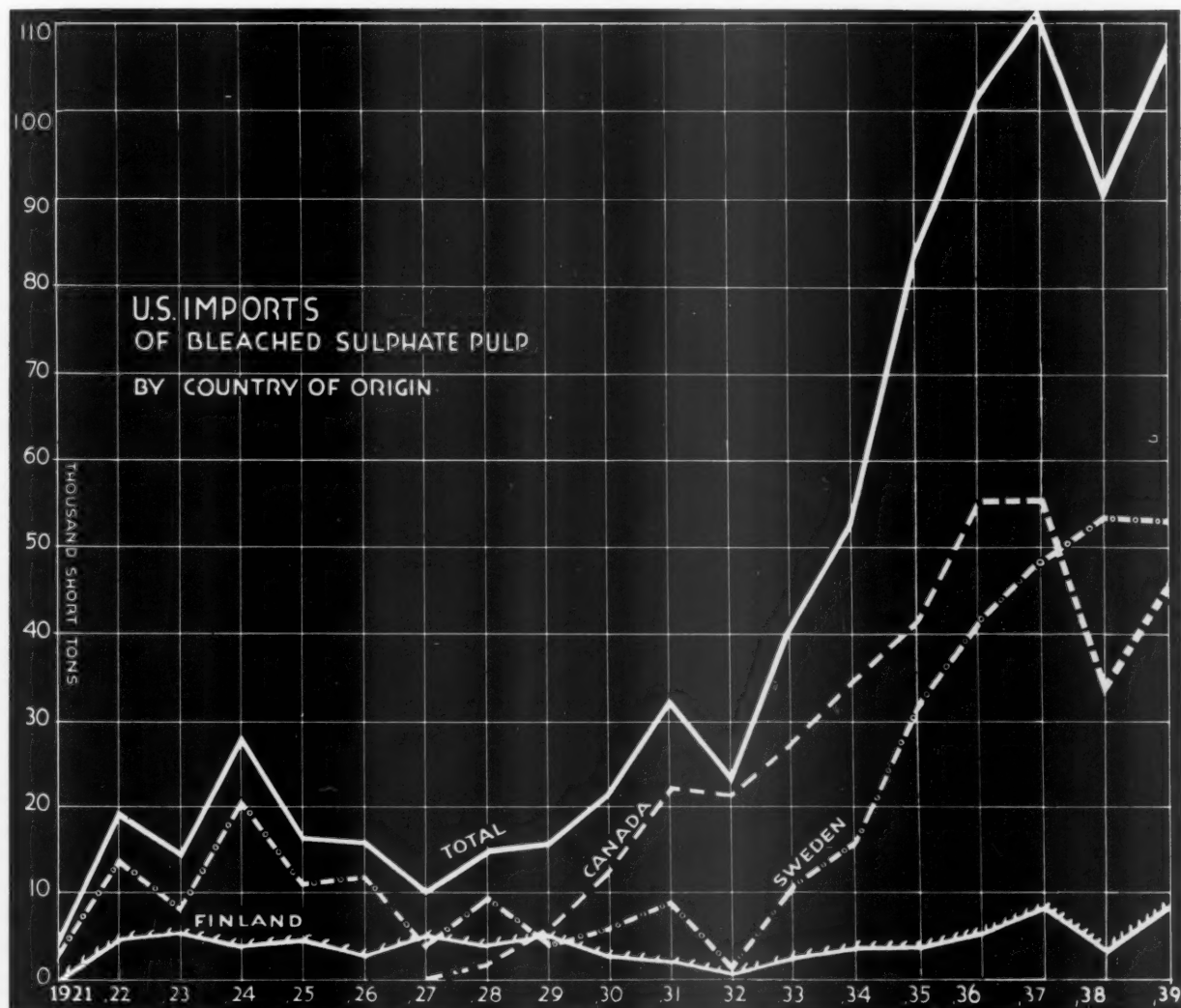
UNITED STATES
Imports of Bleached and Unbleached Sulphate—1920 to 1939
By Countries of Origin
 (Long Tons of 2,240 Pounds)

Countries:	Sweden	Canada	Finland	Norway	All Others	Total
1920	25,012	114,175	7,762	3,363	1,236	178,548
1921	57,702	89,729	5,799	522	2,733	159,006
1922	122,545	137,307	23,631	8,850	2,611	294,944
1923	84,739	131,304	20,089	10,258	2,728	249,118
1924	144,148	125,256	17,749	13,080	5,474	305,707
1925	159,282	127,567	21,170	10,568	4,035	323,222
1926	169,810	140,625	25,006	11,798	3,711	350,950
1927	180,897	138,660	19,602	10,690	2,102	351,951
1928	201,757	141,779	32,139	15,761	4,410	395,846
1929	227,760	116,290	31,907	17,079	6,333	399,639
1930	247,361	76,334	35,427	13,072	3,677	338,714
1931	259,238	52,700	55,692	4,385	6,183	378,198
1932	227,226	37,283	45,278	13,285	1,798	324,870
1933	375,583	54,412	49,288	16,513	2,612	498,408
1934	332,019	77,017	52,367	14,263	2,462	478,128

1935-39 IMPORTS IN TONS OF 2,000 LBS.

1935	429,916	94,748	66,286	17,356	3,036	611,342
1936	499,373	117,460	92,765	23,544	4,955	738,097
1937	501,499	114,053	97,927	17,798	2,938	734,215
1938	349,383	82,302	71,539	12,370	668	516,262
1939	389,187	104,255	130,015	15,825	15,137	654,419

Source: Department of Commerce, Bureau of Foreign and Domestic Commerce.



From Mine to Mill



Each of these gondola cars holds enough sulphur to help make 400 tons of sulphite pulp. Melted underground by hot water, this sulphur has been extracted in liquid form from our Hoskins Mound mine at Freeport, Texas. It has cooled and solidified in a huge vat, from which it is blasted down and shipped to answer the call of industry.

Last year, some 450,000 tons of sulphur made the journey from sulphur mine to paper mill in the United States and Canada to help in the transformation of forests into pulp and paper. One of the most useful of the industrial chemist's raw materials, sulphur is a standard ingredient for the processing of pulp for many types and grades of paper. About 250 pounds of the yellow mineral, for example, are used in making one ton of sulphite pulp. In all, the pulp and paper industry accounted in 1939 for more than one-fourth of the entire United States and Canadian consumption of sulphur. For more than 25 years the Freeport Sulphur Company, oldest American sulphur producer, has been serving this important and progressive industry. Today, at our mines at Freeport, Texas, and Port Sulphur, Louisiana, we have ample stocks above ground of 99½ per cent pure sulphur, free from arsenic, selenium and tellurium and ready to fill the requirements of pulp and paper mills. An up-to-date production system, latest loading and shipping facilities and experience acquired during more than a quarter century of operation insure our customers the utmost in prompt, dependable service.

FREEPORT SULPHUR COMPANY

122 East 42nd Street, New York, N. Y.

PAPER AND PULP IMPORTS OF THE UNITED STATES

For the Twelve Months Ending Dec. 31, 1938 and 1939

PAPER IMPORTS

Articles—	12 Months, Ending Dec., 1938—		12 Months, Ending Dec., 1939—	
	Quantity	Dollars	Quantity	Dollars
Paper and Manufacturers		112,978,458		126,793,442
Printing Paper—				
Standard Newsprint, free	1000 lbs.	4,549,248	5,230,257	115,715,522
Other, n.e.s., dut.	lbs.	19,016,853	532,512	26,815,394
Grease and waterproof, dut.	lbs.	795,883	139,701	678,952
Kraft wrapping, dut.	lbs.	26,600,848	1,013,797	25,469,709
Other wrapping, dut.	lbs.	1,346,273	60,162	3,760,835
Writing and drawing, dut.	lbs.	968,392	283,597	1,031,878
Paper and envelope combinations, dut.		44,850		28,564
Surface coated, dut.	lbs.	1,434,114	567,269	648,883
Uncoated, decorated, embossed, dut.	lbs.	32,650	13,890	34,311
Tissue and Similar Papers—				
Not over 6 pounds to the ream, dut.	lbs.	997,193	630,122	1,234,552
Other, dut.	lbs.	381,230	180,440	603,359
Pulpboard, in rolls, dut.	lbs.	19,624,974	385,554	20,170,931
Paperboard, pulpboard, n.e.s., cardboard-leatherboard, etc., dut.	lbs.	32,897,739	847,398	36,661,935
Cigarette Paper, dut.	lbs.	15,438,267	3,873,994	15,502,667
Cigarette books and covers, dut.	lbs.	1,143,030	295,081	1,353,296
Hanging paper (wall paper), dut.	lbs.	630,840	163,964	481,880
Duplex, decalcomania, not printed, free	lbs.	418,516	88,392	812,749
Paper boxes, dut.	lbs.	501,803	237,084	
Paper mache and pulp manufacturers, dut.			372,396	
Other paper and manufacturers, dut.		1,792,584		1,664,528

PAPER BASE STOCK IMPORTS

Articles—	12 Months, Ending Dec., 1938—		12 Months, Ending Dec., 1939—	
	Quantity	Dollars	Quantity	Dollars
Paper Base Stocks		86,354,332		88,409,149
Pulpwood	cords	1,293,930	1,130,874	9,436,505
Rough:				
Spruce, free	cords	146,843	1,176,853	166,479
Other, free	cords	143,610	1,052,727	71,419
Peeled:				
Spruce, free	cords	786,958	7,500,591	694,529
Other, free	cords	162,749	1,030,696	126,657
Rossed:				
Spruce, free	cords	15,636	223,113	27,104
Other, free	cords			248
Chipped, free	cords	38,142	54,400	44,438
Wood and Other Pulp: (Ton, 2,000 pounds, air-dry weight)				
Wood Pulp	tons	1,722,346	72,766,183	2,026,209
Mechanically ground wood pulp:				
Unbleached, free	tons	163,201	3,422,348	221,144
Bleached, free	tons	7,269	170,021	6,810
Sulphite Wood Pulp:				
Unbleached, free	tons	688,189	26,883,449	661,090
Bleached, free	tons	337,659	20,102,944	473,863
Sulphate Wood Pulp:				
Unbleached, free	tons	426,450	16,260,194	546,398
Bleached, free	tons	90,173	5,463,598	107,952
Soda pulp, free	tons	9,405	463,629	8,952
Other pulp, free	tons	41	7,997	204
Rags for paper stock, free	lbs.	80,027,890	1,264,604	114,482,087
All other paper stock, free	lbs.	78,356,231	1,277,168	118,359,489

PACIFIC COAST PAPER IMPORTS

1939

(Short Tons — Value)

Customs District.	Newsprint		Greaseproof & Waterproof		Kraft Wrapping		Other Wrapping		TOTALS	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value
San Diego	5,327	\$ 210,415							5,327	\$ 210,415
Los Angeles	58,663	2,402,841			372	28,487	51	4,262	59,086	2,435,590
San Francisco	33,234	1,481,868	1222 lbs.	460	200	12,879	180 lbs.	29	33,434	1,495,236
Oregon	39	1,535			58	4,128	9	786	106	6,449
Washington	49,278	2,261,447			85	6,129	100 lbs.	22	49,363	2,267,598
Totals	146,541	\$6,358,106	1222 lbs.	\$460	715	\$51,623	60	\$5,099	147,316	\$6,415,288

Source: U. S. Department of Commerce, Bureau of Foreign & Domestic Commerce.

Important Facts

FOR THE PAPER MANUFACTURER



A 210" KRAFT MACHINE



A 136" SPECIALTY MACHINE



A 146" BOARD MACHINE

FOUR IMPORTANT FACTORS TODAY IN MILL OPERATION AND FOUND IN EVERY BAGLEY AND SEWALL PAPER MACHINE:

SPEED: Each year brings new demands for increased production. Engineering skill and modern manufacturing facilities in the building of paper machines are important factors for the paper manufacturer to consider. Bagley and Sewall machines have made many world records for speed, and today still stand among the leaders.

EASE OF OPERATION: There is no smoother operating paper machine than a Bagley and Sewall product. From blueprint to the finished machine, all engineering and manufacturing skill is brought forth to insure this important factor.

LOW MAINTENANCE: Incorporated in the building of any Bagley and Sewall product is the thought of keeping maintenance charges at a minimum. A constant program of improvement is observed, ever mindful that machine shutdowns or repairs are costly factors in mill operation.

QUALITY: Paper manufacturers are fully aware that their position in today's competitive markets is largely dependent on **QUALITY**. A product is no better than the machine on which it was made. A Bagley and Sewall machine provides complete control at any point in manufacture. It is the most efficient unit in the industry today for producing a quality product.

IF YOU ARE CONTEMPLATING A MAJOR INSTALLATION OR MODERNIZING EXISTING EQUIPMENT, ASK FOR ONE OF OUR ENGINEERS TO CALL.

BAGLEY & SEWALL

WATERTOWN, - - NEW YORK

IMPORTS OF EUROPEAN NEWSPRINT INTO THE U. S.*

January 1, 1920—December 31, 1939 (Tons of 2,000 lbs.)

	Sweden	Germany	Finland	Norway	Other	Total
1920	18,875	21,066	3,244	5,916	1,337	50,438
1921	48,932	38,938	22,661	20,193	4,613	135,337
1922	51,812	32,838	26,205	17,292	4,741	132,888
1923	64,570	52,290	41,782	33,829	7,798	200,269
1924	60,827	38,840	35,639	17,259	3,238	155,803
1925	65,518	25,862	21,683	17,030	2,421	132,514
1926	46,020	12,884	34,292	6,176	554	99,926
1927	66,920	7,096	29,330	16,796	1,919	122,061
1928	55,718	9,170	40,237	10,864	418	116,407
1929	50,717	9,741	32,293	3,498	124	96,373
1930	69,268	13,788	41,913	9,326	—	134,295
1932	66,688	21,910	47,992	14,444	35	151,069
1932	61,079	14,323	46,633	22,692	194	144,921
1933	68,062	12,058	56,577	16,591	15	133,303
1934	68,090	5,740	56,813	16,417	—	147,060
1935	93,428	7,156	73,928	22,571	2	197,085
1936	87,488	9,772	122,972	22,110	10	242,352
1937	102,000	13,000	155,000	24,000	—	294,000
1938	71,000	10,000	151,000	11,000	—	243,000
1939	62,000	6,000**	195,000	42,000	4,000	309,000
Total	20 years 1,279,012	362,472	1,235,194	350,004	31,419	3,258,101
Percent	39	11	37	11	0.9	100.0

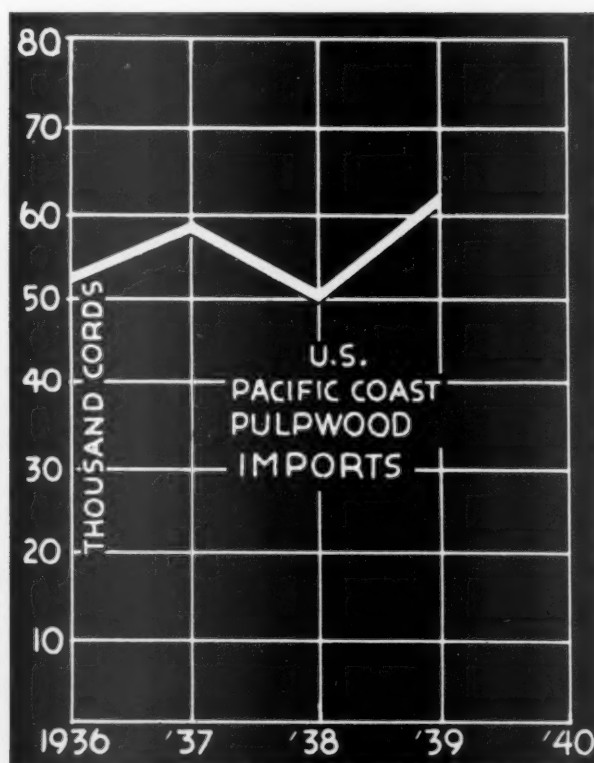
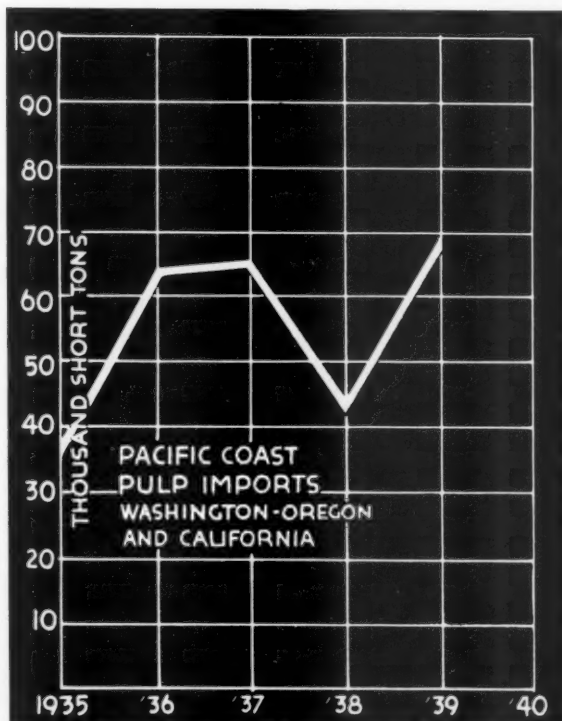
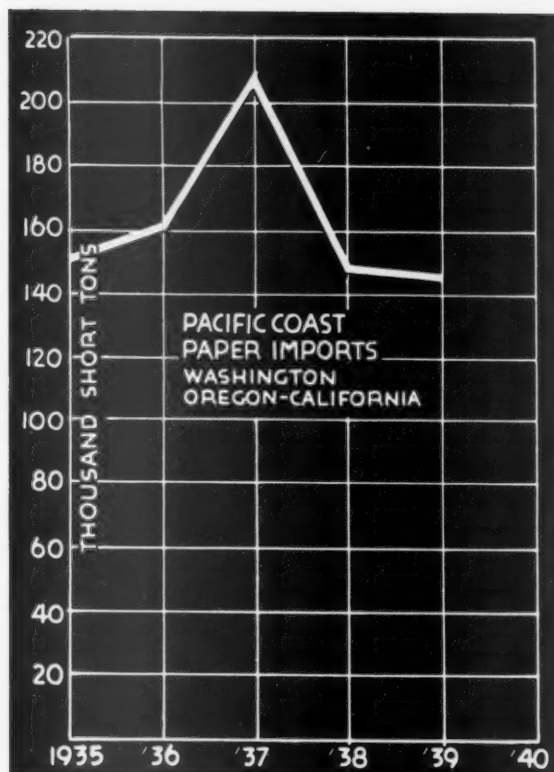
**Shipments ceased with the beginning of the war.

UNITED STATES PULPWOOD IMPORTS

(Unit: 1 Cord—128 Cu. Ft.)

	Rough	Peeled	Rossed	Chipped	Total
1939	237,898	821,186	27,352	44,438	1,130,874
1938	290,453	949,707	15,636	38,142	1,293,938
1937	274,470	1,185,687	24,309	38,402	1,522,868
1936	200,701	977,460	31,597	—	1,209,758
1935	99,659	937,428	425	—	1,037,332
1934	180,019	789,158	4,801	—	973,978
1933	119,852	591,812	11,544	—	723,208
1932	114,366	531,158	2,664	—	648,188
1931	186,613	817,926	17,128	—	1,021,667
1930	331,158	1,234,678	16,365	—	1,582,201

Source: Department of Commerce, Bureau of Foreign and Domestic Commerce.



Pulp Exports Decline Slightly Paper Exports Rise in 1939

Pulp Exports down 980 tons, \$3,493,686 in value — Paper Exports rise 60,015 tons, \$5,245,764 in value — Pacific Coast Exported 69% of the pulp shipped from the United States..

THE exports of wood pulp from the United States declined in 1939 for the second year in succession but the decline last year was only 980 tons or .7 per cent from the 140,484 short tons exported in 1938. The 1939 exports of 139,504 short tons were worth far less, however, being valued at \$6,493,140 against the \$9,986,826 value of the 1938 exports. The decline in value of \$3,493,686 represented a drop of 34.9 per cent.

When compared with the record

export year of 1937 when 302,500 short tons valued at \$19,891,483 were shipped out of the United States, the decline in 1939 amounted to 53.8 per cent in tonnage and 67.3 per cent in value. The 1939 exports were also less in both tonnage and value than the exports in 1934, 1935 and 1936.

Had it not been for the stimulus of the European war the exports of pulp last year would have been well down among the low years. Exports from September through December

accounted for 78,917 short tons or 56 per cent of the entire year's shipments. The top month was October with 21,622 tons.

The 1939 pulp exports were made up of 48,232 short tons of rayon and special chemical grades of bleached sulphite worth \$3,114,966. No comparison with previous years is possible as the U. S. Customs did not segregate the rayon grades from paper grades until 1939.

Paper grades of bleached sulphite exported amounted to 23,243 short

PAPER AND PULP EXPORTS OF THE UNITED STATES

For the Twelve Months Ending Dec. 31, 1938 and 1939

PAPER EXPORTS

Articles—	12 Months, Ending Dec., 1938		12 Months, Ending Dec., 1939	
	Quantity	Dollars	Quantity	Dollars
Paper and Manufactures		25,913,234		31,849,234
Printing Paper—				
Newsprint paper	11,290,759 lbs.	347,746	26,990,612	688,627
Book paper, not coated	18,351,855 lbs.	1,124,762	30,773,065	1,830,813
Cover paper	1,798,595 lbs.	255,408	1,665,068	264,780
Greaseproof and waterproof paper	7,837,714 lbs.	1,630,598	9,240,404	2,093,471
Overissue and old newspaper	142,968,583 lbs.	945,758	171,270,465	1,635,994
Wrapping paper (except kraft)	30,188,506 lbs.	1,825,096	35,215,660	2,031,535
Kraft wrapping	14,342,977 lbs.	539,542	19,227,408	633,101
Surface coated paper	8,071,162 lbs.	1,022,171	14,152,326	1,494,409
Tissue and crepe paper	11,364,583 lbs.	1,080,484	12,893,784	1,166,888
Toilet paper	10,193,286 lbs.	830,791	10,535,551	863,571
Paper towels and napkins	4,097,625 lbs.	373,856	5,959,894	475,163
Boxboard (paper board and strawboard)	83,221,325 lbs.	1,946,639	113,595,050	2,453,978
Bristols and bristol board	2,605,245 lbs.	196,399	2,529,037	187,998
Other paper board	39,327,965 lbs.	1,496,092	32,948,975	1,441,390
Sheathing and building board	15,035,192 lbs.	576,278	13,556,364	446,438
Fiber insulating board or bat	45,143,022 sq. ft.	1,373,931	44,908,526	1,189,959
Wall board and paper or pulp			26,057,282	893,188
Blotting paper	2,067,942 lbs.	249,891	3,128,295	364,536
Filing folders, index cards and other office forms	1,130,396 lbs.	380,690	1,220,598	392,530
Papeteries (fancy writing paper)	268,917 lbs.	59,348	280,973	62,753
Other writing paper	27,308,279 lbs.	2,101,340	37,972,103	2,521,919
Paper hangings (wall paper)	1,426,958 Rolls	153,906	1,283,881	130,612
Paper bags	14,860,867 lbs.	944,585	18,342,846	1,180,770
Boxes and cartons	14,969,575 lbs.	912,834	19,372,613	1,123,885
Envelopes	960,559 lbs.	190,868	1,078,572	212,240
Vulcanized fiber sheets, strips, rods and tubes	3,859,991 lbs.	1,044,045	4,792,848	1,246,703
Cash register and adding machine paper	4,610,756 lbs.	339,840	5,509,066	368,918
Other paper and paper products		3,587,996		4,473,065

PAPER BASE STOCK EXPORTS

Article—	12 Months, Ending Dec., 1938		12 Months, Ending Dec., 1939	
	Quantity	Dollars	Quantity	Dollars
Paper base stocks		11,654,690		8,599,960
Pulpwoods	52,894 cords	361,259	50,165	351,274
Wood pulp (Ton, 2,000 lbs. air-dry weight)				
Sulphite wood pulp:				
Bleached	90,262 tons	7,893,756	71,475**	4,136,081
Unbleached	33,976 tons	1,303,244	40,915	1,332,554
Sulphate wood pulp, bleached & unbleached	*	*	*	*
Soda wood pulp	2,729 tons	180,708	4,013	199,013
Other wood pulp	13,517 tons	609,118	23,101	825,492
Rags and other paper stock	58,243,752 lbs.	1,306,605	102,902,204	1,755,501

*Included under other wood pulp.

**Includes 48,232 tons of Rayon and special grades valued at \$3,114,966.

Source: Bureau of Foreign & Domestic Commerce.

tons worth \$1,021,115. Total bleached sulphite exports amounted to 71,475 tons valued at \$4,136,081 as compared with 90,262 tons valued at \$7,893,756 in 1938. The decline in tonnage was 18,787 tons or 20.8 per cent and in value \$3,757,675 or 47 per cent.

Unbleached sulphite pulp exports in 1939 of 40,915 tons valued at \$1,332,554 were 6,939 tons or 20.4 per cent greater in tonnage and \$29,310 or 2.2 per cent greater in value than the 33,976 tons exported in 1938 which were valued at \$1,303,244.

Total sulphite pulps exported in 1939 amounted to 112,390 tons valued at \$5,468,635 as compared with 124,238 tons worth \$9,197,000 exported in 1938. The decrease in tonnage in 1939 was 11,848 tons, 9.5 per cent, and in value 40.5 per cent.

Total sulphate pulp exports amounted to 23,101 short tons valued at \$825,492 as compared with 13,517 short tons valued at \$609,118 exported in 1938. The increase last year was 9,584 tons, 70.9 per cent, and in value \$216,374 or 35 per cent. Unbleached sulphate pulp exports amounted to 14,816 short tons valued at \$469,557. No comparison is possible with previous year's exports of this grade.

Bleached sulphate pulp is not listed in the customs reports as a separate item but constitute almost all of the exports grouped under "Other." Other wood pulp exports last year amounted to 8,285 short tons valued at \$355,935. Soda pulp exports totaled 4,013 short tons valued at \$199,013 as compared with 2,729 short tons worth \$180,708.

Exports to Japan

● Wood pulp exports to Japan in 1939 totaled 31,351 short tons valued at \$1,948,129. Of this amount 22,660 tons were exported to Japan in the last five months of the year. The 1939 exports were 30,182 tons or 49 per cent less than the 61,533 tons exported in 1938. The 1939 value of exports to Japan was \$3,714,398 or 65 per cent less than the 1938 value of \$5,662,527.

Great Britain Largest Buyer

● The United Kingdom took first place in 1939 as an importer of United States wood pulp with 32,562 short tons valued at \$1,345,682 against 30,760 tons valued at \$1,902,530 in 1938.

Pacific Coast Pulp Exports

● Last year 96,229 short tons of wood pulp valued at \$4,705,121 were exported from Pacific Coast ports representing 69 per cent of the total of 139,504 tons exported

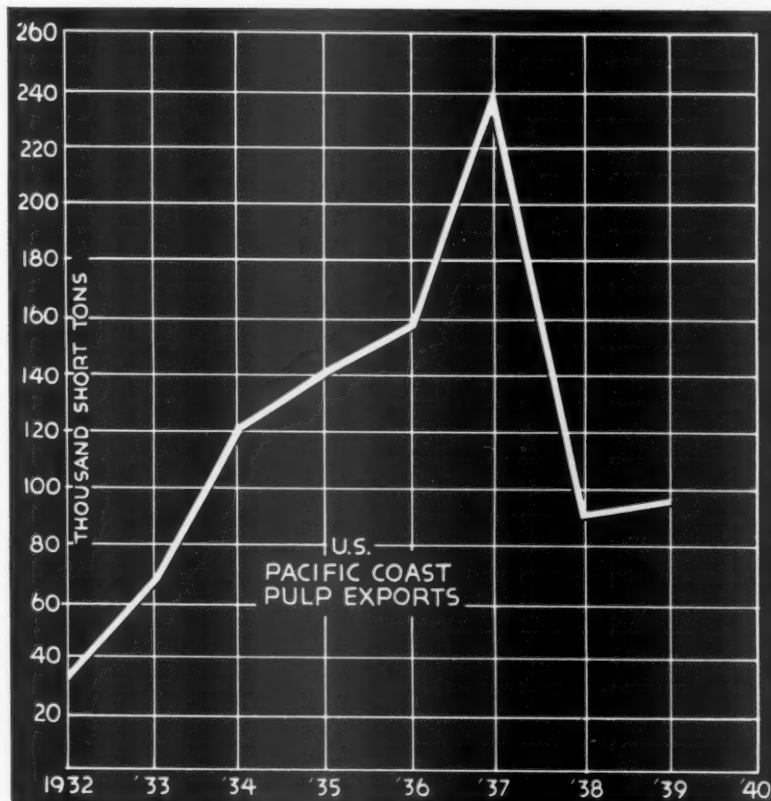
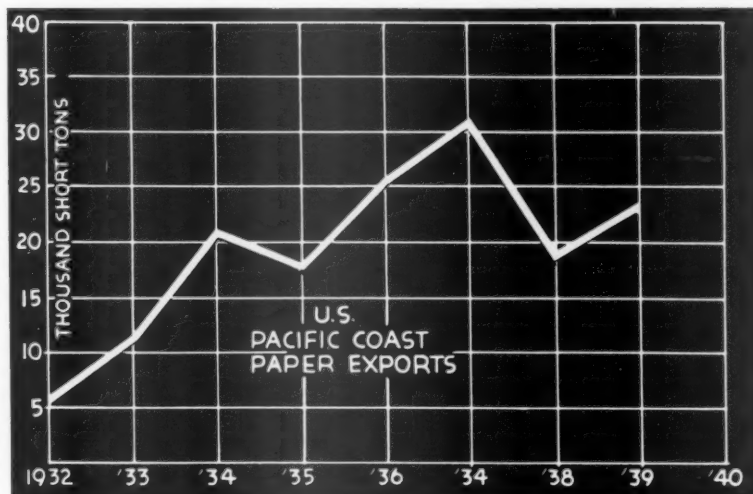
and 72.4 per cent of the total value of \$6,493,140.

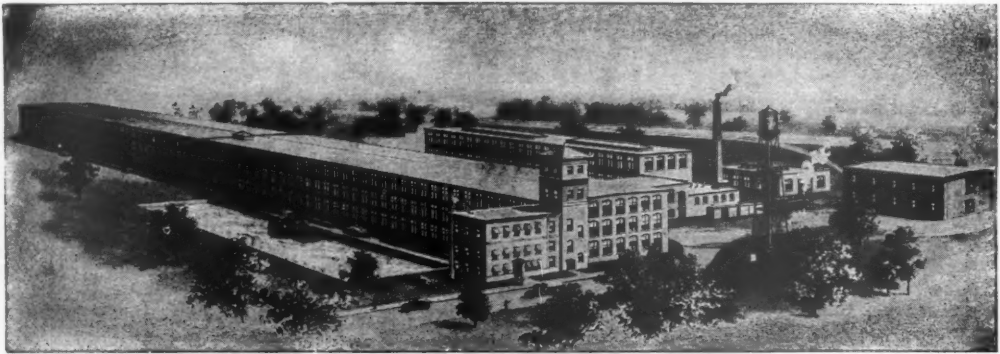
In 1938 the Pacific Coast exported 92,397 short tons of wood pulp out of a total of 140,484 short tons exported from the United States or 65.7 per cent. In 1937 the Pacific Coast exported 241,462 short tons of a total United States exportation of 302,056 short tons or 80 per cent. The decline in Pacific Coast exports in 1938 from 1937 was 61.7 per cent.

Of the 1939 exports to Japan of

31,351 short tons of wood pulp valued at \$1,948,129, the Pacific Coast shipped 30,029 tons worth \$1,907,906.

From the Pacific Coast 45,204 short tons of rayon and special chemical grade of bleached sulphite were exported in 1939, valued at \$2,888,585. Of this total 26,105 tons worth \$1,738,397 was exported to Japan. Details of Pacific Coast pulp exports by countries of destination are given in the accompanying table.





THE HOME OF ALBANY FELTS

Felts For:

Leather Board
 Straw Board
 Box Board
 Bristol Board
 Tissue
 Bond
 Writings
 Insulation Board
 Mulch Paper
 Straw Paper
 Wrappings
 Glassine
 Newsprint
 Cellucotton
 Wall Board
 Soda Pulp
 Sulphite Pulp
 Building Papers
 Asbestos Papers
 Cement Shingles
 Blotting
 Book
 Chip Board
 News Board
 Cover
 Kraft
 Ledger
 Manila
 Rope
 Ground Wood Pulp
 Binders Board
 Toweling
 Condenser Paper
 Bottle Cap Board
 Catalogue
 Envelope
 Container Board
 Hanging
 Coating Boards
 Coating Papers
 Tag Board

SPECIALIZATION

Ours is a specialized business—that of making *good* paper machine felts. It is different from any other textile business in the world.

Our designers, spinners, weavers, research chemists, finishers, are all specialists with years of sound experience in felt making. Some of them have followed their particular line of work for 25 years.

Machinery, too, is *special*. Much of it is of our own design.

Our resources and world-wide experience have led the paper industry to bring all manner of problems to us involving the use of felts.

If you have an unusual machine condition which is bothering you, let us know about it. Perhaps we can help you.

ALBANY FELT COMPANY

ALBANY, NEW YORK

U. S. Paper and Paperboard Exports

● The exports of paper, paperboard and manufactures from the United States in 1939 amounted to 266,079 short tons valued at \$30,213,240, according to the table prepared by the American Paper & Pulp Association which has estimated the non-tonnage items as tons upon a basis of value reported.

This was 27.8 per cent or 58,015 tons more than the 208,064 tons exported in 1938. Comparing values the 1939 value was 21 per cent or \$5,245,764 more than the \$24,967,476 value of the 1938 exports.

Pacific Coast exports of paper totaled 24,174 tons valued at \$1,925,549 in 1939 against 19,707 tons valued at \$2,103,548 in 1938. Ton-

nage increased 3,467 tons or 17.6 per cent but the value decreased \$177,999 or 8.5 per cent.

Exports of paperboard from the Pacific Coast totaled 6,549 tons valued at \$386,433 in 1939 as compared with 8,390 tons valued at \$558,436 in 1938. The decline last year was 1,841 tons or 22 per cent in tonnage and \$172,003 or 30.7 per cent in value.

EXPORTS OF PAPER FROM PACIFIC COAST PORTS 1933-1939

(Tons of 2,000 lbs.)

Customs Districts.	1933		1934		1935		1936		1937		1938		1939	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value
Washington.....	4,530	\$270,160	5,735	\$283,571	3,878	\$197,278	4,807	\$245,887	10,466	*\$1,134,964	5,944	\$674,325	5,429	\$449,092
Oregon.....	3,895	173,179	11,254	462,088	12,801	436,378	15,904	1,031,489	13,087	*1,117,614	9,349	\$768,272	14,782	1,012,037
San Francisco.....	2,644	96,620	4,069	169,014	1,367	64,726	4,985	535,816	4,799	572,773	1,899	\$344,230	1,436	203,161
Los Angeles.....	129	8,329	553	21,431	285	12,072	176	6,495	2,035	304,468	2,199	269,516	2,295	233,112
San Diego.....	4	453	27	4,165	25	2,934	.....	.....	495 ¹	64,763	316 *	47,205	232	28,147
Totals.....	11,202	\$548,741	21,638	\$940,269	18,356	\$713,388	25,872	\$1,819,697	30,882	\$3,194,582	19,707	\$2,103,548	24,174	\$1,925,549

*Includes \$53,475 for paper shipped through Washington Customs District, \$7,824 through Oregon Customs District, for which no tonnage was given.

¹Includes paper products.

†Includes \$8,401 for paper and paper products shipped through Oregon Customs District for which no tonnage was given.

‡Includes \$65,587 for paper and paper products shipped through San Francisco Customs District for which no tonnage was given.

Source: U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce.

EXPORTS OF PAPER BOARD FROM PACIFIC COAST PORTS 1933-1939

(Tons of 2,000 lbs.)

BOXBOARD, BRISTOL, OTHER PAPER BOARD

Customs Districts.	1933		1934		1935		1936		1937		1938		1939	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value
Washington.....	482	\$23,335	232	\$13,073	192	\$14,755	244	\$17,550	1,759	\$89,347	1,441	\$81,328	941	\$60,548
Oregon.....	2,397	76,612	690	40,638	542	22,829	179	14,200	.....	.....	374	15,106	160	6,076
San Francisco.....	4,406	163,669	2,352	101,089	3,127	123,917	3,853	194,086	4,367	201,550	6,329	424,623	4,994	290,967
Los Angeles.....	64	5,104	313	15,023	69	6,452	57	7,577	233	23,055	168	28,979	445	27,221
San Diego.....	1/2	98	5	542	2	156	.....	.....	32	3,006	78	8,400	9	1,621
Totals.....	7,050	\$268,818	3,592	\$160,365	3,932	\$168,109	4,333	\$233,413	6,391	\$316,958	8,390	\$558,436	6,549	\$386,433

During 1939 1,740,322 square feet of paper board, valued at \$45,877, passed through Washington Customs District; 3,780,632 square feet, valued at \$138,059 passed through San Francisco Customs District; 1,417,940 square feet valued at \$24,286, passed through Oregon Customs District; 152,237 square feet, valued at \$6,118 passed through Los Angeles Customs District; and 103,286 square feet, valued at \$3,092 passed through San Diego Customs District.

Source: U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce.

PACIFIC COAST EXPORTS Converted Products 1939

By Customs Districts

Customs District.	Toilet Paper		Paper Towels and Napkins		File Folders, Index Cards, Office Forms, Etc.		Paper Bags		Boxes & Cartons		Envelopes		Cash Register and Adding Machine Paper	
	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value
Oregon.....	113,946	\$ 6,627	364,561	\$17,050	.....	.....	800,302	\$ 42,353	.....	.....	1,747	\$ 142	.....	.....
Washington.....	213,598	17,182	78,248	5,935	24,941	7,338	1,857,419	105,495	616,878	19,773	12,390	4,424	3,484	199
San Francisco.....	112,186	7,375	44,495	5,109	11,722	6,083	795,645	131,236	2,431,100	72,154	29,850	14,534	32,336	2,920
Los Angeles.....	26,375	2,083	20,736	1,864	3,483	5,098	1,596,095	83,033	88,581	3,438	2,042	628	2,523	264
San Diego.....	55,742	4,069	50,135	5,062	7,799	3,266	225,618	17,430	18,474	694	3,489	714	631	94
Total.....	521,847	\$37,336	558,175	\$35,020	47,945	\$21,785	5,305,079	\$379,547	3,155,033	\$96,559	49,518	\$20,442	38,974	\$3,477

EXPORTS OF WOOD PULP FROM PACIFIC COAST PORTS 1933-1939

(Tons of 2,000 lbs.)

Customs Districts.	1933		1934		1935		1936		1937		1938		1939	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value
Wash.....	67,346	\$2,916,447	110,846	\$6,078,757	127,896	\$7,368,975	140,072	\$7,680,896	201,734	\$13,271,137	88,580	\$7,062,869	93,306	\$4,598,370
Oregon.....	30	1,140	5,471	203,624	14,103	524,424	18,776	617,867	39,728	1,746,038	2,180	133,451	2,090	68,893
San Francisco.....	769	21,990	13	1,803	.....	.....	121	4,241	.....	.....	1,637	48,969	350	15,417
Los Angeles.....	.....	.....	4,992	356,008	.....	.....	.....	.....	.....	.....	.....	.....	483	22,441
San Diego.....	.....	.....	14	693	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	68,145	\$2,939,577	121,336	\$6,640,885	141,999	\$7,893,399	158,969	\$8,303,004	241,462	\$15,017,175	92,397	\$7,245,289	96,229	\$4,705,121

Source: U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce.



**CO-ORDINATES ALL 4
IN PROCESS CONTROL**

In process control—the lack of co-ordination in regulating such variables as temperature, pressure, flow and liquid levels, inevitably results in unbalanced operation—with resultant loss in time and increased costs.

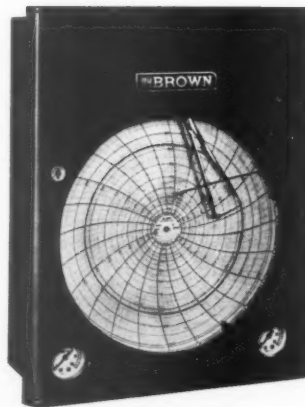
Brown Air-o-Line provides this co-ordination: First, by the simplicity with which Air-o-Line is "tuned in" to process control. Second, by the extreme precision with which it maintains control. The Brown Air-o-Line Controller has reduced the most complicated process control problem to the simplicity of dialing a radio.

Air-o-Line is easily adapted to any process control problem. All that is necessary is to set the "Control Index" at the desired point, then a turn of the graduated dials enables the operator to "tune in" for "Throttling Range and Automatic Reset"—quickly and precisely, without guesswork.

Once "tuned in," Air-o-Line is fully automatic. It "Recognizes," "Analyzes" and "Corrects" any departure from the desired point without "hunting," "cycling," "drifting" or "shifting" of the control setting.

With Air-o-Line controlling your processes you always get the best results—not just "good enough." Air-o-Line responds instantly to pen movements of less than 1/10 of 1% of full scale. It can make pressure changes, for example, as small as .01 lb. per square inch, or 1/4-inch water pressure at the control valve.

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Brown Air-o-Line Recording Controller for temperatures, pressures, flows and liquid levels.

BROWN AIR OPERATED CONTROLLERS

OUTSTANDING PERFORMANCE WITH SIMPLICITY

WOOD PULP EXPORTS From Pacific Coast Ports By Countries of Destination 1939

(Tons of 2,000 Lbs.)

Customs District From Washington	Bleached Sulphite		Other Sulphite		Unbleached Sulphite		Unbleached Sulphite (Kraft)		All Others		Total
	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	
To Belgium	5,509	\$ 325,735	579	\$ 20,439	21	\$ 513	107	\$ 3,900	6,216	\$ 350,587	
France	6,708	408,036	367	12,369	675	20,133	69	2,426	7,819	442,964	
Italy	12	946	1,095	40,779	205	8,021	628	22,733	1,312	49,746	
United Kingdom	3,262	188,800	6,877	269,705	6,656	198,489	1,504	53,894	17,423	679,727	
Canada	245	10,647	35	1,558	1,129	14,893	2,407	116,788	2,913	80,992	
Mexico	1,729	123,680	285	8,450	578	23,365	3,443	151,963	3,443	151,963	
Argentina	1,633	92,236	5,295	208,685	2,592	84,500	2,014	132,130	9,844	387,877	
Brazil	1,633	92,236	3,025	74,797	3,025	101,911	3,324	12,159	3,963	139,627	
British India	.....	.....	582	20,558	633	20,777	5	37,716	1,220	41,556	
China	.....	.....	89	2,899	1,089	31,950	221	1,964	1,491	44,604	
Peru	.....	.....	82	2,899	114	3,353	54	1,964	1,491	44,604	
Netherlands India	.....	.....	1,152	50,522	2,772	118,987	114	3,353	30,029	1,907,906	
Japan	26,105	1,738,397	3,024	108,406	209	8,266	3,012	80,918	51	2,900	200,598
Australia & New Zealand	1	108	29	1,180	.....	.....	.....	.....	29	1,180	
Africa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	45,204	\$2,888,585	19,124	\$737,100	19,983	\$633,905	3,729	\$100,519	6,087	\$254,701	\$4,614,810
From Oregon											
To Italy	.....	.....	205	9,677	.....	.....	.....	.....	.....	.....	9,677
Brazil	.....	.....	501	18,994	487	12,831	.....	.....	.....	.....	31,825
British India	.....	.....	113	5,188	782	22,083	.....	.....	.....	.....	5,188
Japan	.....	.....	2	120	.....	.....	.....	.....	.....	.....	22,203
Total	.....	.....	821	\$ 33,979	1,269	\$ 34,914	.....	.....	.....	.....	\$ 68,893
From San Francisco											
To British India	.....	.....	11	540	339	14,867	.....	.....	.....	.....	14,867
Australia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	540
Total	.....	.....	11	\$ 540	339	\$ 14,867	.....	.....	.....	.....	\$ 15,427
From Los Angeles											
To Australia	45	4,420	.....	.....	438	18,021	.....	.....	.....	.....	45
Japan	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	438
Total	45	\$ 4,420	.....	.....	438	\$ 18,021	.....	.....	.....	.....	\$ 22,441
GRAND TOTAL	45,249	\$2,893,005	19,956	\$771,619	22,029	\$701,727	3,729	\$100,519	6,087	\$254,701	\$4,721,571

Source: U. S. Department of Commerce, Bureau of Foreign & Domestic Commerce.

Note: In 1939 for the first time the U. S. Customs segregated the rayon and special chemical grades of bleached sulphite from the bleached sulphite for paper and also bleached sulphate which in previous years had been included under "Other Pulp." Exports from Pacific Coast Ports under "Other Pulp" are very largely bleached sulphate.

PAPER EXPORTS
From Pacific Coast Ports
By Countries of Destination
1939

(Tons—2,000 pounds)

Customs District—	Newsprint		Book Paper Not Coated		Greaseproof and Waterproof		Wrapping		Kraft		Tissue and Crepe	
From Washington	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value	Tons	Value
To Bulgaria			20	\$ 1,949								
Canada			278	32,216	33	7,725	86	32,216	48	4,529	1	691
Guatemala			25	2,695								
Nicaragua	9	645	13	1,204								
Panama			7	646								
Cuba			104	10,504								
Argentina			79	7,899								
Colombia			49	4,881								
British Malaya	20	1,060	46	3,281								
Peru			15	1,513								
Venezuela			292	26,925								
China	2,289	71,189	619	69,589	4	1,128						
Hong Kong			127	13,892								
Philippine Islands			1,584	103,019	32	5,463	101	7,916				
Australia			101	9,500								
New Zealand			365	36,543								
Others			33	3,978			5	293			12	867
TOTAL	2,318	\$ 72,894	3,757	\$330,234	138	\$ 14,316	192	\$ 40,425	48	\$ 4,529	13	\$ 1,558
From Oregon												
To Cuba							86	8,903				
Argentina											303	36,231
Colombia							20	1,777				
Peru	5	374					4	399				
Venezuela	2	3,427										
China	1,134	43,311										
Hong Kong	445	13,017					48	2,297				
Philippine Islands	2,927	121,901	22	2,249	64	10,113	5,585	363,878	339	24,808		
Australia			4	449								
Netherland W Indies							80	7,654				
Palestine							608	44,693			85	3,867
Africa							516	43,380			167	8,885
Ecuador							147	11,175			20	2,050
Brazil							6	652			889	114,733
United Kingdom							12	1,009				
Chile											210	22,404
Others	7	132					63	4,260			151	13,297
TOTAL	4,520	\$182,162	26	\$ 2,698	64	\$ 10,113	7,175	\$490,077	339	\$ 24,808	1,825	\$201,467
From San Francisco												
To Canada							2	103				
Guatemala									2	165		
Honduras							1	78				
Nicaragua	10	645										
Salvador	7	386	1	104			2	485				
Cuba	76	4,309	1,033	125,494			106	6,694				
Argentina							23	2,857				
Brazil					43	4,704	39	4,847				
Colombia			6	534								
Ecuador							78	5,278				
Venezuela			13	1,280								
China					4	1,053						
Philippine Islands	59	2,342			2	337	46	9,914	4	438	2	1,221
Australia			4	717	6	1,922	2	223			3	1,522
French Oceania							24	2,769				
New Zealand							40	4,465				
Others	3	278	2	358	3	1,481	8	1,256	2	464	3	1,171
TOTAL	155	\$ 7,960	1,059	\$128,487	58	\$ 9,497	371	\$ 38,979	8	\$ 1,067	8	\$ 3,914
From Los Angeles												
To Canada					5	1,747						
Panama	6	653					144	11,582				
Salvador	5	300										
Jamaica					5	664	62	9,116			27	4,564
Cuba	95	5,521					1,326	114,333			70	9,609
Argentina							12	1,507				
Colombia	3	244					9	553				
Brazil											302	37,138
Venezuela	8	758	2	173								
Ecuador							8	1,117				
Netherland W Indies							4	404				
Philippine Islands			3	583	2	3,391	10	2,282	41	3,377		
Australia					27	7,767	25	1,868			6	1,691
New Zealand							10	742				
Others							3	547				
TOTAL	117	\$ 7,476	5	\$ 756	39	\$ 13,569	1,613	\$144,051	41	\$ 3,377	405	\$ 53,002
From San Diego												
To Mexico	40	3,620	2	260	1	290	129	13,930	3	291	1	246
GRAND TOTAL	7,150	\$274,202	4,849	\$462,435	300	\$ 47,785	9,480	\$727,462	439	\$ 34,072	2,252	\$260,187

WOOD PULP EXPORTS FROM CANADA 1939

(In tons of 2,000 pounds)

	Sulphite		Sulphate	Other	Mitscherlich	Screenings	Total
	Bleached	Unbleached					
United States	250,644	99,094	150,845	8,790	132,124	10,090	606,587
United Kingdom	25,783	9,618	508	.....	36,528	.....	72,437
Japan	8,799	448	840	.....	.....	.....	10,087
Italy	6,620	.....	.....	.....	.....	.....	6,620
France	4,351	.....	154	.....	.....	.....	4,505
Mexico	1,450	.....	.....	.....	.....	.....	1,450
Belgium	809	.....	22	269	.....	.....	1,100
Netherlands	614	.....	80	.....	.....	.....	694
Germany .....	.....	.....	675	.....	.....	.....	675
Dutch E. Indies	496	.....	.....	.....	.....	.....	496
Brazil .....	.....	.....	446	.....	.....	.....	446
Switzerland .....	.....	.....	216	.....	.....	.....	216
British India	120	.....	.....	.....	.....	.....	120
Australia .....	.....	.....	28	.....	.....	.....	28
Others .....	.....	.....	55	.....	.....	.....	55
Total	299,686	109,160	108,869	9,059	168,652	10,090	705,516

Source: Canada—Dominion Bureau of Statistics.

CANADA Wood Pulp Exports

(Tons of 2,000 lbs.)

Year—	Chemical Pulp		Mechanical Pulp		Total, All Pulp	
	Tons	Value	Tons	Value	Net Tons	Value
1939	536,864	\$26,910,425	168,651	\$4,090,177	705,515	\$31,000,602
1938	429,832	24,816,491	124,202	\$2,914,247	554,034	\$27,730,738
1937	703,915	37,670,179	166,796	4,145,552	870,711	41,815,121
1936	620,977	28,405,644	133,512	2,841,051	754,489	31,246,695
1935	538,419	24,993,785	124,049	2,631,945	662,468	27,625,730
1934	486,990	22,716,942	118,645	2,727,902	605,635	25,444,844
1933	476,358	20,666,614	132,151	2,688,023	608,509	23,354,637
1932	336,063	16,367,976	116,229	2,562,080	452,292	18,930,065
1931	457,435	25,450,476	165,096	4,606,167	622,531	30,056,643
1930	551,413	33,092,807	208,759	5,967,172	760,172	39,059,979
1929	626,378	37,670,383	209,331	5,906,638	835,709	43,577,021
1928	660,136	40,068,703	203,670	5,546,120	863,806	45,614,323
1927	618,324	39,234,577	260,831	7,761,464	879,155	46,996,011
1926	621,004	40,571,304	382,077	11,505,818	1,003,081	52,077,122
1925	599,466	37,358,632	360,265	10,573,273	959,671	47,931,905
1924	528,279	32,326,943	253,699	7,916,029	781,978	40,242,972
1923 .....	.....	.....	.....	.....	875,358	37,027,496
1922 .....	.....	.....	.....	.....	818,246	41,037,849
1921 .....	.....	.....	.....	.....	527,222	33,133,675
1920 .....	.....	.....	.....	.....	819,985	76,563,978
1919 .....	.....	.....	.....	.....	709,134	37,184,764
1918 .....	.....	.....	.....	.....	583,911	33,359,927

Newspaper Circulation In U. S. Shows Big Increase

● Showing a larger rate of gain in the last twenty years than that of the country's population, the circulation of daily newspaper's has increased 11,880,026 copies, or 42.7 per cent, while Sunday newspaper circulation has expanded 14,435,405, or 84.5 per cent, it is revealed

by Editor and Publisher. The population gain in the last two decades has been 24.3 per cent.

The circulation percentages have been compiled by The St. Louis Post-Dispatch from figures in Editor and Publisher International Year Book. The number of daily newspapers in twenty years has decreased by 154, or 7.5 per cent, while

the Sunday newspapers have increased by two, or 0.4 per cent.

The combined circulation of 1,888 daily newspapers in 1939 was 39,670,682, compared with a combined circulation of 27,790,656 of 2,042 daily papers in 1920. The combined circulation of 524 Sunday newspapers in 1939 was 31,519,009, as against 17,083,604 of 522 Sunday papers in 1920.

"NON-USERS
ARE THE
LOSERS"

FINISH AND TRIM

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TAKE STOCK -- THEN LOOK AHEAD!

How did your felts stand up to their duty this past year? If they were TENAX FELTS you all and we all know the answer—TENAX FELTS have led the production procession for fifty interesting and profitable years.

Let's not rest on the record. If you are equipped with TENAX FELTS let us give you some service; if not, let us tell you their proud and economical story.

*"Non-Users Are
the Losers"*



LOCKPORT FELT COMPANY

Newfane, N. Y. • U. S. A.

Pacific Coast Representative: ALAN C. DUNHAM, Portland, Ore.

Rayon Pulp Consumption Sets New Record in 1939

United States Rayon Producers Consume 143,000 short tons of wood pulp in 1939, 7.5% or 10,000 tons above 133,000 tons consumed in 1937, the previous record year—Domestic rayon production and consumption set new records in 1939—Staple Fiber production increased 77% over 1938.

THE United States rayon industry consumed a record tonnage of dissolving wood pulps in 1939 in the manufacture of rayon yarn and staple fiber. The 143,000 short tons used last year was 10,000 tons or 7.5 per cent larger than the previous record year of 1937 when 133,000 tons were consumed. Consumption of dissolving wood pulp by the rayon industry was 33,000 tons higher than the 110,000 tons consumed in 1938 an increase of 30 per cent.

Wood pulp did not gain over cotton linters in 1939 as a raw material for rayon yarns, holding the same percentage, 73 per cent, of the total as in 1938. Cotton linter pulp, representing 27 per cent of the total pulp consumed, amounted to 53,000 tons an increase of 13,000 tons over the 40,000 tons consumed in 1938, and 8,000 tons more than the linter pulp consumed in 1937 when linters held 25 per cent and wood pulp 75 per cent of the total pulp used by the rayon industry. The above data and the table on this page giving pulp consumption by the domestic rayon industry for all years from 1930 on, are from the Rayon Organon, published by the Textile Economics Bureau, statistical organization for the rayon industry.

The United States Pulp Producers Association reports that the producing capacity of rayon grades of bleached sulphite pulp in 1939 was 335,556 short tons or 18.5 per cent of the total bleached sulphite producing capacity of 1,804,783 short tons. The report states that 199,027 tons of rayon grades of bleached sulphite pulp were consumed in the United States in 1939. This was 12 per cent of the total bleached sulphite consumption (paper and rayon grades combined) of 1,632,388 tons. The figure, 199,027 tons is not comparable with the 143,000 tons consumption reported by the Textile Economics Bureau. The latter includes the rayon industry alone while the former figure embraces all consumption of rayon grades including that used for plastics, lacquers, cellophane, etc. Stocks on hand at the end of each year are not taken into consideration.

The report of the United States Pulp Producers Association says that the production of rayon grades of bleached sulphite in the United States amounted to 159,205 tons in 1939 or 13 per cent of the total bleached sulphite pulp produced.

Domestic sales of domestic rayon bleached sulphite, the report states, amounted to 106,760 tons or 25 per

cent of all the bleached sulphite pulp sold by U. S. producers in this country which totaled 426,447 tons.

Imports of rayon grades totaled 88,052 short tons and were all imported from Canada in 1939. The rayon grades imported constituted 18.5 per cent of all bleached sulphite pulps imported.

Exports of rayon grades of wood pulp in 1939 totaled 48,232 short tons or 67.5 per cent of the 71,475 tons of bleached sulphite pulp exported. Of the 48,232 tons of rayon grades exported last year, 45,204 tons were exported by Pacific Coast pulp mills. (See page 81 and also refer to the chart on page 28)

Production and Consumption at New Highs

● "The year 1939 was unquestionably a milestone in the history of the American rayon producing industry," says the Rayon Organon. "Production as well as consumption records were shattered during the year."

Total rayon production during 1939 reached a new high of 384,200,000 pounds, 12 per cent greater than the 341,900,000 pounds produced in the previous record year of 1937 and 33 per cent greater than the 287,500,000 pounds produced in 1938.

CELLULOSE CONSUMPTION BY THE U. S. RAYON INDUSTRY

Short Tons of Refined Cellulose

	TOTAL PULP		WOOD PULP*		LINTERS PULP*		RAW COTTON LINTERS†
	Tons	Per Cent	Tons	Per Cent	Tons	Per Cent	Bales
1930.....	72,000	100	45,000	62	27,000	38	115,000
1931.....	84,000	100	53,000	63	31,000	37	132,000
1932.....	74,000	100	43,000	58	31,000	42	132,000
1933.....	115,000	100	65,000	57	50,000	43	213,000
1934.....	112,000	100	63,000	56	49,000	44	209,000
1935.....	137,000	100	86,000	63	51,000	37	218,000
1936.....	151,000	100	104,000	69	47,000	31	201,000
1937.....	178,000	100	133,000	75	45,000	25	192,000
1938.....	150,000	100	110,000	73	40,000	27	171,000
1939.....	196,000	100	143,000	73	53,000	27	226,000

*Wood and linters in purified form as used by rayon producers.

†Bales of raw cotton linters figured on the basis of one-third overweight on refined linters pulp (due to refining losses) and converted to bales on the basis of 625 pounds net weight per bale.

Source: Rayon Organon, April, 1940.

What OIL for GEARS?

For lowered replacement cost, less noise and more power transmitted, the right lubricant is essential

INSIDE YOUR GEAR BOXES, nearly everyone is agreed on what the proper lubricant should do. It should: (1) lower replacement cost by holding wear to a minimum; (2) cut down power losses; (3) give quiet operation.

The difficulty comes when you try to prescribe the lubricant which best accomplishes all three jobs in any individual set of gears. And since noise is the symptom of trouble most easily observed, too often a hasty operator simply pours in a heavy oil, gets a quieter action, and hands himself a medal for his smartness. He may discover later that he has raised his power cost by 15%.

HIGH PRESSURE, SMALL AREA

Here's the chief reason why gear lubrication is difficult. Your lubricant must form an oil film—

Not between two flat surfaces

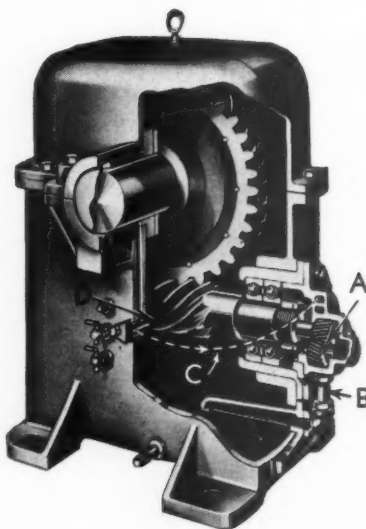
Not between a concave and a convex surface

BUT between two convex surfaces.

It is possible even between two convex surfaces to form the oil wedge which gives the most effective film. But it's the most difficult condition



Diagram showing how the meshing teeth of spur gears, under ideal conditions, form an oil "wedge."



Worm gear set with self-contained oiling system

A—Gear-type oil pump.

B—Suction line to oil pump.

C—Oil lead from pump to spray nozzle.

D—Spray nozzle to gears.

of all. As the teeth slide over each other, the oil-wedge action is abrupt, and intense pressure is forced upon a small area. (See diagram at left.)

HOW FAST DO THEY TURN?

The speed of each gear closely affects the formation of the necessary oil film. Slow-moving gears with large teeth need an oil film which stands up under pressure.

On the other hand, a

high speed may tend to throw the oil away from the meshing surfaces. Speed must be carefully considered when you set out to get the best oil for any gear box.

NEW GEARS, AND GEARS NOW

What of the design of your gear teeth? In worm gears, for example, a large helical angle helps to form a strong oil film. But the sliding action in such a gear increases heat. So you're apt to need a heavier oil than you would for a spur gear operating under like conditions.

Further, the design of gear teeth tells what they were like *when new*. But it may be even more important, in selecting a lubricant, to find what the teeth are like now. After a certain amount of wear, tooth contact often hits just "the high spots"... and again you need to modify your lubricant.

All these factors and others, too, must be considered in any attempt to find the oil which attains the three vital objectives in your gears. Shell has studied the problem and will continue to study it. We have found that the right selection for any set of gears involves choosing from a wide range of lubricants.

Call in your Shell representative; give him the opportunity to study your gears in day-by-day operation and recommend the lubricant that will give the most satisfactory service at lowest cost.



Shell Industrial Lubricants

Of the 1939 total production of 384,200,000 pounds rayon filament yarn accounted for 331,200,000 pounds or 86.2 per cent. This was an increase of 28.4 per cent in filament yarn production in 1938 and 2.9 per cent more than the 321,700,000 pounds produced in 1937.

Rayon staple fiber accounted for 53,000,000 pounds of the total yarn production in the United States in 1939 or 13.8 per cent. This was an increase in rayon staple production of 77 per cent over 1938, and 162 per cent more than the staple fiber production of 20,200,000 pounds in 1937.

The Rayon Organon estimates domestic rayon consumption in 1939 at 462,375,000 pounds (362,375,000 pounds of yarn plus 100,000,000 pounds of staple fiber). This total is 41 per cent higher than the previous high consumption figure of 327,120,000 pounds consumed in 1938. The consumption of filament yarn last year exceeded the 1938 consumption by 32 per cent and the previous high in 1936 by 22 per cent.

Rayon staple fiber consumption in the United States in 1939 at 100,000,000 pounds was 88 per cent above the 1938 consumption of the former high figure. The staple fiber consumption figure is made up of 53,000,000 pounds of domestic production plus approximately 47,000,000 pounds imported.

Estimated World Production

● It is estimated by the Rayon Organon that the world production of rayon filament yarn and staple fiber in 1939 totaled 2,150,000,000 pounds, an increase of 10.3 per cent over the 1,948,000,000 pounds produced in 1938 the previous high total.

The world rayon filament yarn production last year of 1,125,000,000 pounds, showed an increase of 13.6 per cent over the 990,000,000 pounds produced in 1938, but was below the 1,199,000,000 produced in 1937 by 6.1 per cent. The 1937 filament yarn production is the high production so far.

The world production of staple fiber set a new record in 1939 with 1,025,000,000 pounds an increase over the previous high of 958,000,000 pounds in 1938 of 6.9 per cent.

"It is estimated," says the Rayon Organon, "that in 1939 the United States produced approximately 29 per cent of the world's rayon filament yarn and about 5 per cent of the world's staple fiber output. In accounting for this large share of

the world's filament yarn output, the United States retained its place as the world's leading rayon yarn producing country, its production exceeding that of its nearest competitor, Japan, by nearly 45 per cent in 1939. Although showing a large increase over 1938, the 1939 United States rayon staple fiber production, on the other hand, amounted to only 5 per cent of the world total, as noted."

"Some of the other outstanding features of the 1939 world rayon production situation," continues the Rayon Organon, "were the substantial gains made by Germany and Italy in the production of both yarn and staple fiber, and the substantial decrease in the Japanese output of rayon staple fiber."

Japan's Rayon Production

● The total output of rayon (yarn plus staple fiber) in Japan in 1939 amounted to 548,850,000 pounds, according to the Japan Cellulose Industry Reporters, Ltd., and quoted by the Rayon Organon. This total is 6 per cent below the record high of 584,600,000 pounds in 1938. The production of rayon yarn alone in 1939 amounted to 239,350,000 pounds which was an increase of 14 per cent above the 209,600,000 pounds produced in 1938 but 28 per cent below the record of 334,350,000 pounds in 1937.

The 1939 production of rayon staple fiber in Japan approximated 309,500,000 pounds says the Rayon Organon. This figure compares with 375,000,000 pounds produced in 1938, or a decline of 18 per cent. It is also reported that Japanese production of synthetic fiber from soybeans in 1939 amounted to 1,200,000 pounds. This is the first report received from Japan on the

production of this new protein-type synthetic fiber.

"The rayon and staple fiber industry in Japan, which had been operating under difficulties for some time," reports the U. S. Bureau of Foreign & Domestic Commerce on April 15, 1940, "was further hampered during the fourth quarter of 1939 by a shortage of power and raw materials. The power shortage was particularly acute in the western region of Japan, in which are located most of the mills producing rayon and staple fiber. Despite these handicaps, rayon yarn production for December, 1939, was about 5 per cent greater than in the preceding month. It is understood that no important new restrictions were applied to the rayon industry during the last quarter of 1939 but, effective February 1, 1940, several control laws were put into force which will make the use of new machinery practically impossible. Available information indicated that the laws, in addition to restrictions on the importation and payment for rayon machinery, will forbid the use of whatever such machinery may be admitted into Japan.

Dissolving Pulp Prices

● The prices for the several grades of dissolving pulps used in rayon yarn and staple fiber manufacture during 1939 ranged from \$75 to \$100 and so held through the first quarter of 1940. For the second quarter American producers raised the prices, the most commonly used grade being raised from \$75 to \$80 per ton of 2,000 pounds, air-dry basis (10 per cent moisture), Atlantic seaboard. The largest producer of dissolving pulps in this country announced a price for its new pulp developed for acetylation of \$100 per ton.

United States Rayon Production in Millions of Pounds

	1939	1938	1937	1936	1935	1930
Rayon Filament Yarn.....	331.2	257.6	321.7	277.6	257.6	127.3
Rayon Staple Fiber	53.0	29.9	20.2	12.3	4.6	0.4
TOTALS.....	384.2	287.5	341.9	289.9	262.1	127.7

United States Rayon Consumption in Millions of Pounds

	1939	1938	1937	1936	1935	1934	1930
Rayon Filament Yarn.....	362	274	267	298	253	195	118
Rayon Staple Fiber.....	100	53	41	25	6	2	1
TOTALS.....	462	327	308	323	259	197	119

World Rayon Production in Millions of Pounds

	1939	1938	1937	1936	1935	1934	1930
Rayon Filament Yarn.....	1,125	975	1,205	1,021	940	772	451
Rayon Staple Fiber.....	1,025	925	618	298	139	52	6
TOTALS.....	2,150	1,900	1,823	1,319	1,079	824	457

Coast Industry's Payrolls Increased in 1939

Payrolls of pulp and paper mills in Washington and Oregon increased 12.5% in 1939 over 1938—Washington's payroll up 16.5%—Oregon's declined 3.6% in 1939 from 1938.

IN 1939 the payroll of the pulp and paper industry of the state of Washington totaled \$11,919,822 and the number of hours worked in the industry amounted to 14,197,262, according to data prepared by the Statistical Division, Department of Labor and Industries, State of Washington.

The 1939 payroll was 16.54 per cent higher than the \$10,227,766 paid in wages by the industry in 1938, and the hours worked were 15.86 per cent greater than the 12,254,194 hours worked in 1938.

Washington's pulp and paper industry payroll and hours worked respectively in 1939 were 145.4 per cent and 84.12 per cent greater than in 1927 when the payroll was \$4,855,526 and the number of hours worked were 7,710,848. The payroll in 1939 was 34.18 per cent more and the hours worked were 13.54 per cent more than in 1929. The payroll and hours worked respectively were 5.77 per cent and 12.93 per cent less than in 1937, the peak year of the industry in Washington. In 1937 the industry's payroll reached the high point of \$12,607 and the hours worked were 16,305,933.

The Census of Manufacturers for 1937 (latest reported) reported that the combined pulp and paper industry in Washington employed 8,450 men and women and paid them \$13,209,676 in wages and salaries. The industry's cost of materials, fuel, purchased energy, contract work, etc., in 1937 amounted to \$42,313,862. The value of the products in that year was \$85,459,862 and the value added to the raw materials by manufacturing totaled \$43,146,059.

Oregon's Payroll

Oregon's pulp and paper industry payroll in 1939 totaled \$3,089,061 against \$3,207,313 in 1938, a decline of 3.6 per cent or \$118,252. The work days reported by the Oregon State Industrial Accident Commission which supplied this data for Oregon, were 580,161 in 1939 as compared with 596,405 in 1938, a decline of 16,244 days or 2.7 per cent.

The 1939 payroll of the industry in Oregon of \$3,089,061 was \$1,209,856 or 28 per cent lower than the \$4,298,917 payroll in the peak year of 1937. The days worked in 1939, 580,161, were 277,535 days or 32 per cent less than the 857,696 days worked in 1937. The approximate number of employees in 1939 was 2,044 against 2,052 in 1938 and 2,861 in 1937.

The Census of Manufacturers for 1937 (the latest detailed report) gave the number of men and women employed in Oregon's pulp and paper mills as 3,445, and they received wages and salaries totaling \$4,476,747. The cost of materials, fuel, purchased energy, contract work, etc., in that year amounted to \$13,835,796. The products of the Oregon industry in 1937 were valued at \$25,208,224, and the value added by manufacturing was \$11,372,428.

California's Employment

● As California does not report industry employment on a basis of

industrial accident insurance as does Washington and Oregon, comparable data for 1939 is not available. The best possible information has been contributed by Herbert M. Hufi, research and statistics officer, State of California Department of Employment, who advised PACIFIC PULP & PAPER INDUSTRY as follows:

● "Our only segregation of data for firms in the paper industry in California is on the basis of the general classification 'Paper and Allied Products.' In addition to paper mill products this classification includes: 1. Coated and Glazed Papers; 2. Envelopes; 3. Paper Bags; 4. Paperboard Containers and Boxes; 5. Converted Paper Products not elsewhere classified.

"The figures for the individual classifications are not available but pulp and paper mill products are known to be a very small percentage of the total.

"The available figures for 'Paper and Allied Products' are:

TABLE I

Average Hourly Earnings in Cents of Productive Employees (Exclusive of Converting Employees) in Pulp and Paper Manufacturing.

(Source: Calculated from tables received from A.P.P.A.)

	June to December Inclusive					
	1934	1935	1936	1937	1938	1939
Pacific Coast	58.3	62.0	66.9	79.7	79.6	79.8
All Other U. S. Regions	51.3	52.7	53.1	62.3	61.5	61.7
North East (New England)	52.2	53.8	53.8	62.4	60.8	61.2
Middle Atlantic	52.9	55.2	55.7	64.8	63.7	64.0
Lake States	52.6	53.9	54.9	65.1	65.1	65.6
Central (North)	51.6	53.4	54.0	61.7	62.6	62.4
Central (South)	46.5	47.3	47.7	55.8	54.9	55.1
Southern (East)	45.9	47.0	47.7	56.9	57.0	55.9

TABLE II

Average Weekly Earnings of Productive Employees (Exclusive of Converting Employees) in Pulp and Paper Manufacturing.

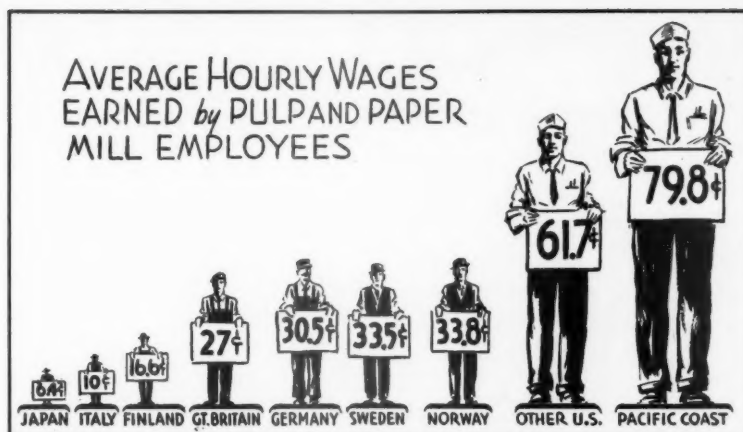
(Source: Calculated from tables received from A.P.P.A.)

	June to December Inclusive					
	1934	1935	1936	1937	1938	1939
Pacific Coast	\$20.32	\$22.80	\$25.73	\$29.60	\$26.49	\$30.12
All Other U. S. Regions	17.59	19.85	21.74	23.87	23.24	24.67
North East (New England)	17.95	19.88	21.62	23.88	22.39	24.77
Middle Atlantic	18.54	20.84	23.17	24.66	24.04	25.62
Lake States	18.18	20.43	22.98	25.79	25.17	26.62
Central (North)	17.34	20.04	22.06	23.65	23.41	25.23
Central (South)	16.18	18.39	19.41	21.09	20.79	21.85
Southern (East)	14.57	17.60	18.43	20.98	21.39	21.82

Year	Payroll	Average Number of Employees
1936	\$9,285,200	5,632
	(1936-1937 Average)	
1937		6,099
1938	8,678,701	5,611
1939	9,474,000	6,000
	(estimate)	(estimate)

"The figures for 1936 and 1937 shown above are not comparable with the figures shown for 1938 and 1939. Those firms which conducted activities falling into more than one industry were included in the industry in which they had the greatest proportion of workers and payroll in tabulating the data for our report 'Seasonal Employment in California,' from which the 1936 and 1937 figures were taken. The 1938 and 1939 figures were taken from required reports to the Social Security Board. For these reports, the separate activities of firms engaged in more than one activity are segregated and a portion of the workers and payrolls are included in each of the industries in which the firm is engaged. There are several large firms in the paper industry in California which are classed as multiples. Data for these firms for 1938 and 1939 have been recorded differently from those for 1936 and 1937."

From the latest Census of Manufacturers (1937) we take the following data on the employment, wages, etc., in the plants making paper and paperboard in California. The converting plants are not included. The Bureau of the Census reported that for 1937 paper and paperboard plants in California em-



ployed 2,485 people and paid them in wages and salaries \$3,792,250. The cost of materials, etc., fuel, purchased energy and contract work, was \$8,787,909. The total value of the products was \$17,540,681 and the value added by manufacture was \$8,752,772.

Hourly and Weekly Earnings

● The data given in Tables I and II on average hourly and average weekly earnings of productive employees (exclusive of converting employees) in pulp and paper manufacturing are reproduced by permission of Permanent Classification Committee of the Pacific Coast Association of Pulp and Paper Manufacturers.

These tables were first published in the 1939 Review Number and it will be noted upon comparison that

slight revisions have been made, and it will also be noted that in 1939 the Pacific Coast industry continued to provide its employees with the highest hourly and weekly earnings of any pulp and paper producing region of the United States and that is the same as saying in the entire world.

Although the average hourly wage paid by the Pacific Coast industry rose but .2 cents, from 79.6 to 79.8 cents per hour, the average weekly wage in 1939 rose \$3.63, or 13 per cent, from \$26.49 in 1938 to \$30.12 in 1939.

Employees of the Pacific Coast industry had their earnings boosted more than those in any of the other regions which had increases ranging from \$1.06 to \$1.88 per week.

It will be further noted by a study of the two tables that the average

STATE OF OREGON

Payrolls and Employment

1927-1939*

PULP AND PAPER MANUFACTURING

Year	Payroll	Work Days	Approximate Number Employees
Fiscal Year 1927-1928	\$2,691,220.18	581,833	1,939
Fiscal Year 1928-1929	2,946,218.92	640,724	2,136
Six Mos. July to Dec., 1931, Inc.	1,017,435.13	235,114	1,566
Calendar Year 1932	1,896,692.09	504,311	1,681
Calendar Year 1933	1,819,904.95	535,789	1,786
Calendar Year 1934	2,577,436.84	700,842	2,336
Calendar Year 1935	2,984,889.22	778,547	2,837
Calendar Year 1936	3,578,624.01	839,063	2,697
Calendar Year 1937	4,298,917.22	857,696	2,861
Calendar Year 1938	3,207,313.93	596,405	2,052
Calendar Year 1939	3,089,061.69	580,161	2,044

*Statistics furnished by the Oregon State Industrial Accident Commission.
Data from July 1, 1929, to June 30, 1931, not available.

WESTERN GEARS



SERVING THE WEST *with* THREE MODERN PLANTS

Pulp and paper mills find a broad use for PACIFIC-WESTERN gears and drives from one end to the other—from chipper to crane that loads the cars.

High quality gear products manufactured in modern plants ideally located to serve you efficiently is the business of PACIFIC-WESTERN. Experienced gear engineers and craftsmen in an organization that has been devoted for fifty years to solving industry's gearing problems is assurance that your particular requirements will be fully met by PACIFIC-WESTERN.

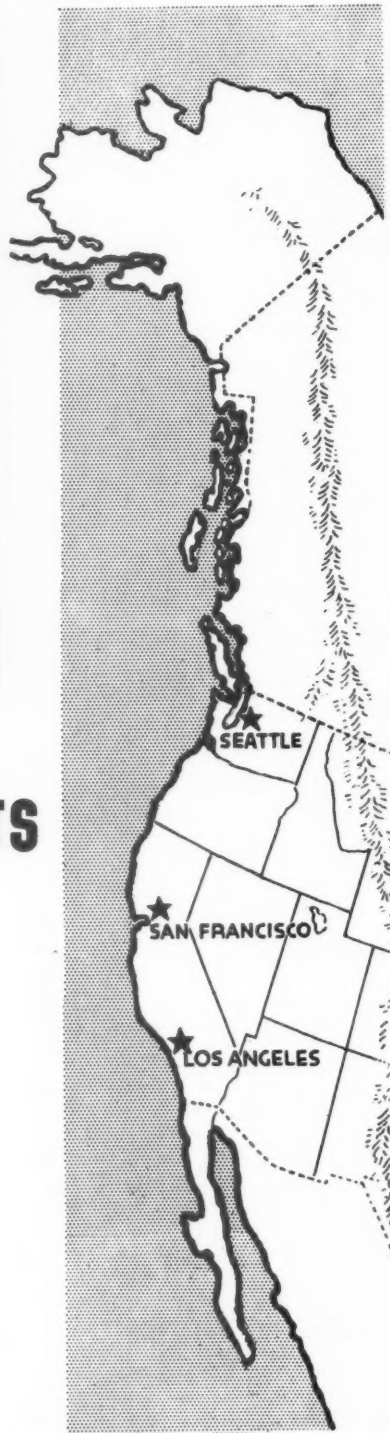
Western Gear Works

ASSOCIATED WITH

PACIFIC GEAR & TOOL WORKS

SAN FRANCISCO SEATTLE LOS ANGELES

"Gear Products from Gear Specialists"



PACIFIC GEARS

STATE OF WASHINGTON PAYROLLS AND HOURS WORKED 1927-1939*

ALL HAZARDOUS INDUSTRY OF STATE					LUMBERING					PULP AND PAPER MANUFACTURING				
Year	Payroll	Workmen Hours	Increase or Decrease Compared With Preceding Year		Payroll	Workmen Hours	Increase or Decrease Compared With Preceding Year		Payroll	Workmen Hours	Increase or Decrease Compared With Preceding Year		Payroll	Workmen Hours
			Payroll	Hours			Payroll	Hours			Payroll	Hours		
1927	\$255,669,929	396,071,584	6.08%	4.33%	\$83,446,482	130,841,328	.40%	-2.19%	\$4,855,526	7,710,848	14.78%	10.33%		
1928	271,223,403	414,002,480	6.52%	5.70%	83,782,300	127,973,488	3.82%	2.93%	5,573,223	8,507,600	14.78%	10.33%		
1929	288,903,912	437,600,400	-10.00%	-9.19%	86,986,842	131,720,152	-28.45%	-25.52%	7,845,335	12,275,072	40.77%	44.28%		
1930	260,002,808	397,369,096	-27.42%	-20.19%	63,093,612	98,102,528	-47.33%	-34.60%	9,110,285	13,874,832	16.12%	13.03%		
1931	188,705,890	317,120,680	-30.11%	-19.56%	33,236,663	64,161,624	-49.29%	-35.77%	6,990,889	11,360,944	-23.26%	-18.12%		
1932	131,893,000	255,078,920	-2.18%	-2.29%	16,853,140	41,214,176	37.07%	23.90%	5,063,638	8,960,224	27.57%	-21.13%		
1933	129,023,888	260,928,662	25.33%	8.91%	23,101,145	51,066,187	28.54%	.08%	5,166,375	9,693,579	2.03%	8.18%		
1934	161,702,804	284,179,483	16.00%	10.12%	29,693,289	57,868,831	19.18%	13.11%	7,435,151	11,835,457	43.91%	22.10%		
1935	187,578,233	312,935,429	28.99%	21.41%	35,389,039	57,868,831	46.32%	33.57%	8,131,888	12,560,285	9.37%	6.12%		
1936	241,960,112	379,926,777	18.40%	8.64%	51,799,595	77,214,714	13.80%	.75%	9,858,151	14,638,927	21.23%	16.53%		
1937	286,480,085	412,743,811	-6.53%	-8.07%	58,947,801	77,277,272	-25.93%	-28.36%	12,607,622	16,305,933	27.89%	11.37%		
1938	267,784,196	379,432,496	+13.38%	+8.91%	43,719,909	55,718,862	+14.99%	+14.23%	10,227,766	12,254,194	-18.88%	-24.83%		
1939	303,602,602	413,236,113			50,275,519	63,648,087			11,919,822	14,197,262	+16.54%	+15.86%		

Industry as a whole: Payroll in 1939 was 18.74% more than in 1927 while hours worked show an increase of 4.33% and payroll in 1939 showed an increase of 5.08% while hours worked showed a decrease of 5.56% in comparison with 1929, the peak year.

Lumbering Industry: Payroll and hours worked respectively in 1939 were 39.75% and 51.35% less than in 1927, and 42.23% and 51.60% less than in 1929, the peak year.

Pulp and Paper Mfg.: Payroll and hours worked respectively in 1939 were 145.4% and 84.12% greater than in 1927. The payroll in 1939 was 34.18% more and the hours worked were 13.54% more than in 1929, payroll and hours worked respectively were 5.77% and 12.93% less than in 1937, the peak year in this industry.

* Prepared by the Statistical Division, Department of Labor and Industries, State of Washington, Olympia, Washington.

weekly earnings in all regions in 1939 exceeded those of 1938 but that the average hourly earnings in 1939 did not exceed those of 1938 in all regions.

Foreign Wages

● At the end of this article are two tables giving comparative wages paid in Norwegian and Swedish paper mills job by job with those paid in comparable American paper mills. The data on the Norwegian and Swedish paper mill wages was obtained by a special committee of American members of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers. At the end is a note which is worthy of repetition. It states, "The Special Committee of the International Brotherhood commenting on the relative cost of living in Scandinavia and North America states that it takes a worker in Norway and Sweden 100 hours of work to buy what the American worker can purchase with 65 hours of work."

The tables are reprinted by permission from a special report of Warren B. Bullock, manager of the Import Committee of the American Paper Industry, who said in part in transmitting the report.

● "The enclosed tabulation of comparative paper mill wages in the United States and certain European countries is its own evidence of the need for adequate tariffs on foreign paper to protect American labor as well as capital against undue foreign competition. The Reciprocal Trade Agreements now in effect have encouraged and increased the importation of foreign paper, and to that extent have injuriously affected the American workingman.

"It is computed that, on the average, every ton of paper which is imported deprives one American paper mill employe of one week of full time employment."

Wage Agreements

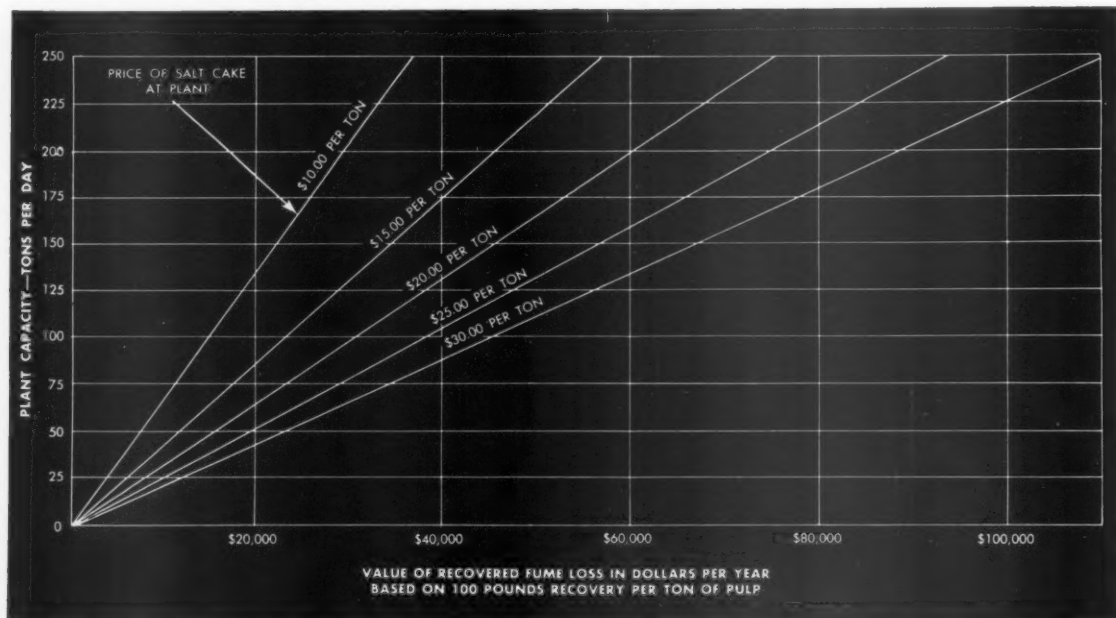
● The wage agreement in effect since August, 1934, between the pulp and paper mills on the Pacific Coast and the International Brotherhood of Pulp, Sulphite and Paper Mill Workers and the International Brotherhood of Paper Makers, was automatically renewed for the second time on June 1, 1939, as none of the parties to the agreement gave the required 30-day notice of a desire to open it for discussion.

The agreement is being opened for discussion and possible revision the last week in May, 1940, preliminary to the signing of a new agreement to be in effect until May 31, 1941, or longer if the parties thereto so desire.

STOP

Blowing Good Cash Values Away

With the current tendency toward increased pulp production and rising prices for salt cake, *Cottrell Electrical Precipitators* for the collection of fume losses from recovery furnaces will pay out completely in months—not years.



Cottrells are turning waste into cash and writing credits on the ledgers of the leading pulp and paper mills of the world. They are a self-liquidating, profit-making investment.

All Cottrells now on order are marked "Rush."

Study this chart and find out what you are losing and the gross annual saving that is possible. The basis of 100 pounds per ton is an average figure that can be adjusted to your actual conditions. Write us today for specific data for your plant.

SEND FOR BOOKLETS

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collect dust, fog, fume and mist and recover values from hot or cold gases, irrespective of particle size or character.

MULTICLONES

are mechanical collectors, all-metal, compact, fireproof. They will repay their full cost in a short time by recovering dust from lime kiln stacks.

DRYERS

Spray Dryers make dry powder from sulphite liquor. Dispersion Dryers dry lime mud to increase the capacity of rotary kilns.

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PIONEER IN DUST AND FUME CONTROL

COMPARISON OF WAGES IN AMERICAN AND EUROPEAN PAPER MILLS

NORWAY

POSITION	Norwegian mill* 146-inch machine 800-foot speed	American mill† 146-inch machine 800-foot speed	WAGE RATES PER HOUR	
			American Averages	
			Machine 101-150-inch	Speeds‡ 701-800 feet
Machine Tender	\$.41	\$1.16	\$1.0495	\$1.1426
Back Tender .....	.31 1/4	.98	.8849	.9763
Third Hand .....	.30 1/2	.85	.7528	.8067
Fourth Hand .....	.30	.64	.6237	.6460
Fifth Hand .....	.29 3/4	....	.6031	.5781
Oilers .....	.32	.66	.6518	.6518
	Same Norwegian mill 219-inch machine, 1000- foot speed	American mill 219-inch machine 1000-foot speed	American Averages	
			Machines 201-250-inch	Speeds 800 feet and over
Machine Tender	\$.44	\$1.37-1.32	\$1.5603	\$1.4587
Back Tender .....	.33 1/4	1.16	1.4273	1.3028
Third Hand .....	.32	.84	1.0689	1.0044
Fourth Hand .....	.31	.68	.7209	.6870
Fifth Hand .....	.30 1/2	.64	.6513	.6294
Oilers .....	.32	.54	.6518	.6518
Beater Room No. 1				
Head Beatermen .....	.31 1/4	.68	.7712	.7712
Boiler Room				
Head Firemen .....	.36 1/2	.58	.7107	....
Helpers .....	.34 1/4	.51-.48-.50	.6295	....
Power Plant				
Shift-electricians .....	.32 3/4	.60	.7725	....
Sulphite Mill				
Digester Cook .....	.39	.85	.7482	....
Digester Cook's Helper .....	.34 1/4	....	....	....
Acid Maker .....	.36 1/2	.55	.7300	....
Wood Room				
Conveyor Men .....	.31 1/4	.62-.60-.48	.5287	....
Unloader .....	.31 1/4	....	.5521	....
Mechanical Pulp Mill				
Grinder Men .....	.33	.60-.50-.48	.5789	....
Screen Men .....	.31 1/4	.48	.6106	....

SWEDEN

POSITION	Swedish mill 3 machines 2 of 192 inches 1 of 114 inches 1000-foot speed	American mill Speed 1000 feet Width 151-200 inch	WAGE RATES PER HOUR	
			American Averages	
			Machines 100-510-inch	Speeds 801 feet and over
Machine Tender	\$.38 1/2	\$1.365	\$1.3377	\$1.4587
Back Tender .....	.33 1/2	1.195	1.1701	1.3028
Third Hand .....	.32 1/4	.955	.9273	1.0044
Fourth Hand .....	.30 3/4	.675	.6519	.6870
Oiler .....	.31 1/2	.725-.925	....	....
Beater Room				
Beater Foreman .....	.38 1/2	1.015-.86	....	.7712
Beater Man .....	.31 1/2	.65	....	.0638
Grinder Room				
Grinder Operator .....	.31 1/2	.765	....	.5789
Laboratory				
Tester at Main Laboratory .....	.31 1/2	....	....	....
Paper Tester .....	.30 3/4	.675	.6183	....
Boiler House				
First Fireman .....	.35 1/4	.835	.7107	....
Second Fireman .....	.32 1/4	.775	.6295	....
Sulphite Mill				
Digester Cook .....	.37	.825-.71	.7482	....
Acid Maker .....	.35 1/4	.825	.7300	....
Electricians .....	.32 1/4-.37	.77 1/2-1.125	....	....
Outdoor Workers				
Unskilled Labor (woodyard) .....	.30 3/4	.62 1/2-.70	....	.5078

Source: *Special Committee of American members of International Brotherhood of Pulp Sulphite and Paper Mill Workers.

†American Paper & Pulp Association. Averages include every mill reporting its wage rates.

Note: The Special Committee of the International Brotherhood commenting on the relative cost of living in Scandinavia and North America states that it takes the workers in Norway and Sweden 100 hours of work to buy what the American worker can purchase in 65 hours of work.

Reprinted by permission from a special report of the Import Committee of the American Paper Industry issued in January, 1940.

Pulpwood Resources Of the Pacific Northwest

Data on available pulpwood in Western Washington and Western Oregon revised in 1939 by the Pacific Northwest Forest & Range Experiment Station—Data for Northern Idaho revised in 1939 by the Northern Rocky Mountain Forest & Range Experiment Station.

THE accompanying tables show the latest figures on the volume of pulpwoods, other than Douglas fir, available for cutting in western Washington and western Oregon.

They do not include timber on municipal watersheds, state and national forests, national parks, etc., which, because of laws or declared public policy, is not available for commercial use. The tables have also been adjusted to take into consideration the recent enlargement of the Olympic National Park in Washington.

In this region there is nearly eighty billion cubic feet of Douglas fir, about twice the volume of the true pulping species. This species is not included, but in view of recent progress in the pulping of this wood experimentally, it should be considered when analyzing the timber available for future use.

These figures are from data prepared by the Pacific Northwest Forest and Range Experiment Station, Portland, based on forest surveys started in 1930, and completed in 1933 and 1934. The results were first published in the Review Number of this journal in 1937, and revised in the 1938 and 1939 Review Numbers. Reference may be made to the 1938 issue for greater detail as to the forest study.

● Since completing the survey, the experiment station staff has started the work of re-inventorying each county through field examination. To date the recheck has been completed for 10 counties where the heaviest cutting has occurred: Grays Harbor, Pacific, Pierce, Snohomish, Thurston, and Cowlitz Counties in Washington; Clatsop, Columbia, Coos, and Washington Counties in Oregon. The revision in two other counties, Lewis and Clallam Counties, Washington, will be completed by the middle of this year, and work is being continued in other counties. It is expected that the re-inventories will be completed at the rate of five or more counties per year.

● Figures on the counties named are based on the re-inventory. The other counties have been brought up to date by adjusting with the estimated depletion since the original survey, the depletion being determined from the timber cut figures.

Although the data are partially based on estimates of depletion, the figures have been rounded to thousands of cubic feet, and because of the large volume, the percentage of error can be considered relatively small. The tables are sufficiently accurate for all practical purposes.

The cubic foot volume estimates give the total sound wood content of the stem of the tree, exclusive of bark and limb wood. Decayed material is omitted, as well as the entire volume of all cull logs having more than two-thirds of the board-foot content defective. No deduction is made, however, for breakage in logging.

The tables do not take into consideration the economic availability of the pulp species, that is, whether or not the timber could be profitably logged at this time. Table III, page 111 of the 1938 Review Number, gives this information. Changes through depletion make revision of this particular table impractical, but if desired, the reader may refer to the 1938 figures, since the percentages in each class of economic availability remain approximately the same at this time.

The ratio of timber in the various ownership classes also remains about the same. Approximately 46 per cent is privately owned, 42 per cent on national forest lands and 12 per cent on other public lands such as county, state, Indian reservations, etc.

Geographical distribution of pulpwood volume is shown by counties in Table II.

Table I

Volume in thousand cubic feet¹ of pulp woods other than Douglas fir, in Western Washington and Western Oregon, available for cutting,² by species group.³

Species.	Western Oregon	Western Washington	Total
Western hemlock	5,879,000	16,424,000	22,303,000
Sitka spruce	1,074,000	1,324,000	2,398,000
Balsam fir ⁴	3,488,000	6,573,000	10,061,000
Mountain hemlock and Engelmann spruce	945,000	351,000	1,296,000
Black cottonwood	64,000	122,000	186,000
Total	11,450,000	24,794,000	36,244,000

¹ Includes all trees 4 inches and more diameter breast height.

² Excludes timber reserved from cutting in municipal, State, and Federal ownership.

³ Data from Pacific Northwest Forest and Range Experiment Station. Based on Forest Survey inventory of 1933 adjusted for estimated cutting depletion 1934-1938, inclusive.

⁴ Includes silver fir, white fir, noble fir, Shasta red fir, lowland white fir, and alpine fir.

● In the Inland Empire Area the data on pulpwood species in Northern Idaho, including Engelmann spruce, Western and mountain hemlock, grand fir and black cottonwood, have been revised by the Northern Rocky Mountain Forest and Range Experiment Station at Missoula, Montana. In revising the accompanying table, M. Bradner, director of the station, stated:

"No changes have been made in the data for Northeastern Washington or Western Montana. It should be observed, however, that the estimates for each of these two subregions includes only the volume of trees larger than 13 inches d.b.h.

"Approximately 71 per cent of the volume indicated for Northern Idaho is in trees larger than 13 inches d.b.h.; the remaining volume, 29 per cent, is in trees ranging from 5 to 12 inches d.b.h."

The revisions for Northern Idaho raised the total of Engelmann spruce from 542,519,000 cubic feet as shown in the 1939 table to 584,200,000 cubic feet shown in the table accompanying this article. Likewise, the Northern Idaho figure for hemlock was raised from 280,872,000 cubic feet to 366,300,000 cu-

INLAND EMPIRE PULPWOOD

Amount of pulpwood in the Inland Empire by species and localities in thousands of cubic feet.

Subregion ¹	Pulp Timber Species				Total All Species
	Engelmann spruce (M cubic feet)	Hemlock ² (M cubic feet)	Grand fir ² (M cubic feet)	Black cottonwood (M cubic feet)	
Northeastern Washington ³	16,368	18,799	26,015	37	61,219
Northern Idaho ⁴	584,200	366,300	1,655,000	11,361	2,616,861
Western Montana ⁵	946,000	30,008	102,322	24,838	1,103,168
Total for Inland Empire	1,546,568	415,007	1,783,337	36,236	3,781,248

¹Northeastern Washington includes Spokane, Stevens, and Pend Oreille Counties. Northern Idaho includes nine complete counties and the portion of Idaho County north of the Salmon River. Western Montana includes the portion of that state west of the Continental Divide.

²Hemlock and grand fir contain small amounts of mountain hemlock and alpine fir respectively. ³Data are based on preliminary forest survey estimates as of January 1, 1935, and include only the volume of trees larger than 13 inches d.b.h.

⁴Data are based on preliminary forest survey revision of January 1, 1939, and include the volume of all trees larger than five inches d.b.h. to a four- to six-inch top diameter in unreserved commercial forests.

⁵Data are based on extensive estimates and include only the volume of trees 13 inches d.b.h. and larger.

To convert cubic feet to board feet Scribner Decimal C log scale multiply Engelmann spruce figures by 5.92; hemlock and white fir by 6.12, and black cottonwood by 6.57.

Source: Northern Rocky Mountain Forest & Range Experiment Station, Missoula, Mont.

bic feet; grand fir was raised from 000 cubic feet in the 1940 table.

1,467,910,000 cubic feet to 1,655,000,000 cubic feet; and, black cottonwood was raised from 9,217,000 cubic feet to 11,361,000 cubic feet. The total for Northern Idaho was increased from 2,300,518,000 cubic feet in the 1939 table to 2,616,861,-

The total for all species for the Inland Empire shows an increase of 316,343,000 cubic feet, from 3,464,905,000 cubic feet shown last year to 3,781,248,000 cubic feet given for 1940.

Table II

Volume of pulp woods, other than Douglas fir, in Western Washington and Western Oregon available for cutting, by county.¹

Washington		Oregon	
County	In thousands of cubic feet	County	In thousands of cubic feet
Clallam	3,127,000	Benton	46,000
Clark	34,000	Clackamas	1,125,000
Cowlitz	909,000	Clatsop	1,238,000
Grays Harbor	2,673,000	Columbia	44,000
Island	9,000	Coos	380,000
Jefferson	2,788,000	Curry	185,000
King	2,143,000	Douglas	1,633,000
Kitsap	19,000	Hood River	295,000
Lewis	2,335,000	Jackson	960,000
Mason	447,000	Josephine	110,000
Pacific	1,831,000	Lane	1,563,000
Pierce	1,281,000	Lincoln	660,000
San Juan	11,000	Linn	1,457,000
Skagit	1,797,000	Marion	518,000
Skamania	1,825,000	Multnomah	33,000
Snohomish	2,073,000	Polk	188,000
Thurston	32,000	Tillamook	943,000
Wahkiakum	464,000	Washington	51,000
Whatcom	996,000	Yamhill	21,000
Total	24,794,000	Total	11,450,000

Includes all trees 4 inches and more diameter breast height.

¹Compiled by Pacific Northwest Forest and Range Experiment Station from forest survey data adjusted for estimated depletion by cutting to 1939.

Washington's 1938 Pulp Production Highest in Value

Output valued at \$30,152,975 — Wisconsin second with \$23,921,904 and Maine third with \$23,349,032 — Maine led in 1938 production with 847,317 tons — Washington second with 836,959 tons — Washington first in pulpwood consumption — Data from 1938 Census of Manufacturers.

THE State of Washington, which was first in 1937 in wood pulp production with 1,184,390 short tons valued at \$48,233,205, held first position in value in 1938 with production worth \$30,152,975 but lost first place in tonnage produced to the State of Maine.

Maine produced 847,317 tons of wood pulp in 1938 valued at \$23,349,032 against 1,003,530 tons worth \$28,802,579 in 1937. Washington's 1938 pulp production totaled 836,959 tons, 10,358 tons be-

low Maine. Wisconsin was second in value of pulp produced in 1938 with \$23,921,904 but third in tonnage with 585,892 tons. Maine held third place in value in 1938.

The above data is from the Bureau of the Census' "Report on Forest Products in 1938 — Pulpwood Consumption and Wood Pulp Consumption, Paper and Paperboard Production and Paper Making Machines in Use," issued in November, 1939.

It is stated in the foreword that

the report, "Is the sixth of a series of biennial reports for the even-numbered years alternating with the years covered by the biennial census of manufactures. The two series provide detailed production statistics for consecutive years. The questionnaires used for collecting the data for the even-numbered years are less detailed than those for the odd-numbered years, and consequently the figures for the several census years as given in Table I are not in all cases strictly comparable."

TABLE I
Paper and Paperboard—Production, by Kind and
Quantity: 1938, 1937 and 1936*

	Quantity (tons, 2,000 pounds)		
	1938	1937	1936
Aggregate	11,380,814	12,837,003	11,975,552
Newsprint, total	832,331	975,854	938,287
Standard (rolls and sheets)	828,267	(¹)	(¹)
Other (special grades)	4,064		
Ground-wood printing and specialty papers, total	435,651	518,332	(¹)
Hanging	87,176	126,890	116,215
Catalog	91,782	100,974	82,576
Other	256,693	290,468	(¹)
Book paper, uncoated	1,336,814	1,520,523	1,438,046
Cover paper	20,216	24,437	25,524
Writing paper, total	481,719	578,147	602,329
Rag content	69,468	78,367	84,945
Sulphite bond	304,282	332,229	355,258
Other chemical wood-pulp	107,969	167,551	162,126
Wrapping paper, total	1,865,856	2,053,387	1,879,323
Sulphite	367,104	² 565,985	334,382
Kraft	1,216,030	² 1,130,033	1,212,347
All other	282,722	357,369	332,594
Tissue paper, total	548,943	540,152	494,721
Toilet	264,380	254,221	220,920
Towel	104,951	93,284	93,056
All other	179,612	192,647	180,745
Absorbent paper	126,320	138,064	105,997
Building paper	570,454	608,086	549,701
All other papers	58,743	77,985	² 288,196
Paperboards, total	5,103,767	5,802,036	5,454,637
Container boards	2,631,318	3,167,550	2,756,286
Folding boxboards (bending)	1,221,047	1,289,024	1,272,147
Set-up boxboards (nonbending)	608,867	720,310	700,769
Binder's board	34,241	51,913	58,004
Cardboard	47,371	51,318	108,499
Bristol board	52,223	73,539	
Leatherboard	18,355	27,174	23,375
Pressboard	10,199	8,623	11,229
Building boards	118,124	110,005	98,389
Other boards	362,022	302,580	425,939

*Source: Bureau of the Census, Forest Products, 1938.

¹Data not available

²Not strictly comparable with 1936 and 1938 because of change in classification in 1937.

³Including poster, news-tablet, lining, etc.

TABLE II
Paper and Paperboard—Production, by Quantity
by States: 1938, 1937 and 1936*

(Statistics are presented in this table for each State for which separate figures can be published without disclosing the exact or approximate production reported by individual establishments. Larger quantities of paper and paperboard were, however, made in certain of the "Other Southern States" and "Other States" than in some of the States for which separate figures are given.)

United States	Quantity (tons, 2,000 pounds)		
	1937	1938	1936
	11,380,814	12,837,003	11,975,552
California	242,533	278,650	265,662
Connecticut	160,272	212,205	212,754
Delaware	35,314	36,389	25,521
Florida	273,048	(¹)	(¹)
Illinois	515,227	593,854	551,414
Indiana	183,547	295,981	280,569
Louisiana	468,808	533,977	513,304
Maine	882,171	1,038,775	981,810
Maryland	131,993	167,189	157,423
Massachusetts	439,499	514,039	494,058
Michigan	1,011,789	1,218,426	1,217,796
Minnesota	246,722	293,059	265,014
New Hampshire	140,739	158,924	152,547
New Jersey	626,274	640,207	637,398
New York	1,178,912	1,415,027	1,326,891
North Carolina	111,709	(¹)	104,938
Ohio	827,340	1,037,884	947,222
Oregon	234,879	273,630	262,478
Pennsylvania	759,121	846,720	795,247
Tennessee	85,448	104,881	101,003
Vermont	70,700	82,071	76,858
Virginia	412,650	461,541	406,970
Washington	472,185	546,227	506,579
West Virginia	51,334	53,586	53,526
Wisconsin	882,445	940,867	892,681
Other Southern States ²	798,267	938,378	745,889
Other States ³	137,888	154,516	

*Source: Bureau of the Census, Forest Products, 1938.

¹Withheld to avoid disclosing data for individual establishments; included in figure for "Other Southern States."

²Withheld to avoid disclosing data for an individual establishment; included in figure for "Other States."

³For 1938 and 1937: Alabama, Arkansas, Georgia, Mississippi, South Carolina, and Texas; in addition, Florida and North Carolina for 1937.

⁴For 1938 and 1937: District of Columbia, Iowa, Kansas, Missouri, and Rhode Island; in addition, Colorado for 1938 only.

TABLE IX
Pulpwood Consumption, by Quantity and Cost, and Wood-Pulp
Production, by Quantity and Value, by States: 1938*

(Statistics are presented in this table for each State for which separate figures can be published without disclosing the exact or approximate production reported by individual establishments. Larger quantities of pulpwood and wood pulp were, however, reported from certain other states than from some of the States for which separate figures are given.)

State	Wood Consumed		Pulp Produced	
	Cords	Cost	Tons of 2,000 pounds	Value
United States	9,193,991	\$74,433,181	5,933,560	\$180,394,204
Northeastern and Central States, ¹ total	2,376,534	27,948,652	1,732,011	59,981,771
Maine	1,058,076	11,681,607	847,317	23,349,032
New Hampshire	262,233	2,783,853	133,317	8,908,094
New York	526,484	7,539,303	427,024	14,233,120
Pennsylvania	283,886	3,756,020	165,098	8,028,415
Vermont	15,921	184,523	16,552	345,970
Other Northeastern and Central States ²	229,934	2,003,346	142,832	5,117,140
Lake States, total	1,496,478	16,455,744	934,510	35,897,850
Michigan	270,690	2,886,391	177,870	6,454,374
Minnesota	255,399	2,595,416	170,748	5,521,572
Wisconsin	970,389	10,973,937	585,892	23,921,904
Southern States, ³ total	3,528,734	19,057,888	2,179,292	48,601,980
Florida	487,235	2,796,397	316,754	5,564,742
Louisiana	722,559	3,209,529	454,211	9,571,845
North Carolina	366,144	2,336,806	199,342	6,503,908
Virginia	559,277	3,455,709	334,869	8,829,734
Other Southern States ⁴	1,393,519	7,259,447	874,116	18,131,751
North Pacific States, total	1,792,245	10,970,897	1,087,747	35,912,603
Oregon	342,229	2,382,005	250,788	5,759,628
Washington	1,450,016	8,588,892	836,959	30,152,975

*Source: Bureau of the Census, Forest Products, 1938.

¹Including Tennessee and West Virginia.

²Maryland, Massachusetts, Ohio, Tennessee, West Virginia.

³Not including Tennessee nor West Virginia.

⁴Alabama, Arkansas, Georgia, Mississippi, South Carolina, Texas.

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PACIFIC COAST REPRESENTATIVE

TABLE III
Paper Machines, by Type, Number and Capacity, and by Kind of
Paper Made: 1938, 1937 and 1936*
 (Tons of 2,000 Pounds)

Kind of paper made—	Total capacity per year of 310 days	Fourdrinier		Cylinder	
		Number	Capacity per 24 hours	Number	Capacity per 24 hours
Aggregate:					
1938	16,191,300	885	29,616	690	22,614
1937	15,572,850	873	27,513	687	22,722
1936	14,458,090	864	25,122	669	21,517
Newsprint:					
1938	960,380	42	3,098	—	—
1937	1,000,370	44	3,227	—	—
1936	1,007,810	49	3,251	—	—
Ground-wood printing and specialty papers (hanging, catalog, novel-news, news tablet, etc.):					
1938	597,060	54	1,926	—	—
1937	557,070	53	1,797	—	—
1936	(¹)	(¹)	(¹)	(¹)	(¹)
Book paper:					
1938	1,977,490	216	6,374	1	5
1937	1,904,640	218	6,131	1	13
1936	1,837,680	202	5,922	1	6
Cover paper:					
1938	65,100	11	205	2	5
1937	40,300	9	123	2	7
1936	37,200	8	113	1	7
Writing paper:					
1938	676,110	132	2,181	—	—
1937	757,020	141	2,442	—	—
1936	728,810	144	2,340	1	11
Wrapping (or coarse) paper:					
1938	2,503,560	200	7,596	40	480
1937	2,351,660	201	7,000	40	586
1936	2,180,850	201	6,625	35	410
Tissue paper:					
1938	668,980	114	1,732	70	426
1937	648,210	104	1,537	79	554
1936	640,770	114	1,673	73	394
Absorbent paper:					
1938	188,170	48	541	24	66
1937	180,420	42	522	25	60
1936	145,390	37	416	22	53
Building paper:					
1938	890,010	7	351	71	2,520
1937	859,630	8	375	63	2,398
1936	728,190	4	174	64	2,175
All other paper:					
1938	128,650	14	290	13	125
1937	105,400	9	191	13	149
1936 ²	639,530	72	1,922	16	141
Boards:					
1938	7,535,790	47	5,322	469	18,987
1937	7,168,130	44	4,168	464	18,955
1936	6,511,860	33	2,686	456	18,320

¹Not shown separately. See footnote 2.

²Including catalog, hanging, poster, news-tablet, lining, etc.

*The figures shown in Table III in the "Number" columns indicate the kind of paper and board made principally on the respective machines, but in cases where one or more kinds of paper or board, the items in the "Capacity per 24 hours" column were distributed according to the several kinds of paper and board made.

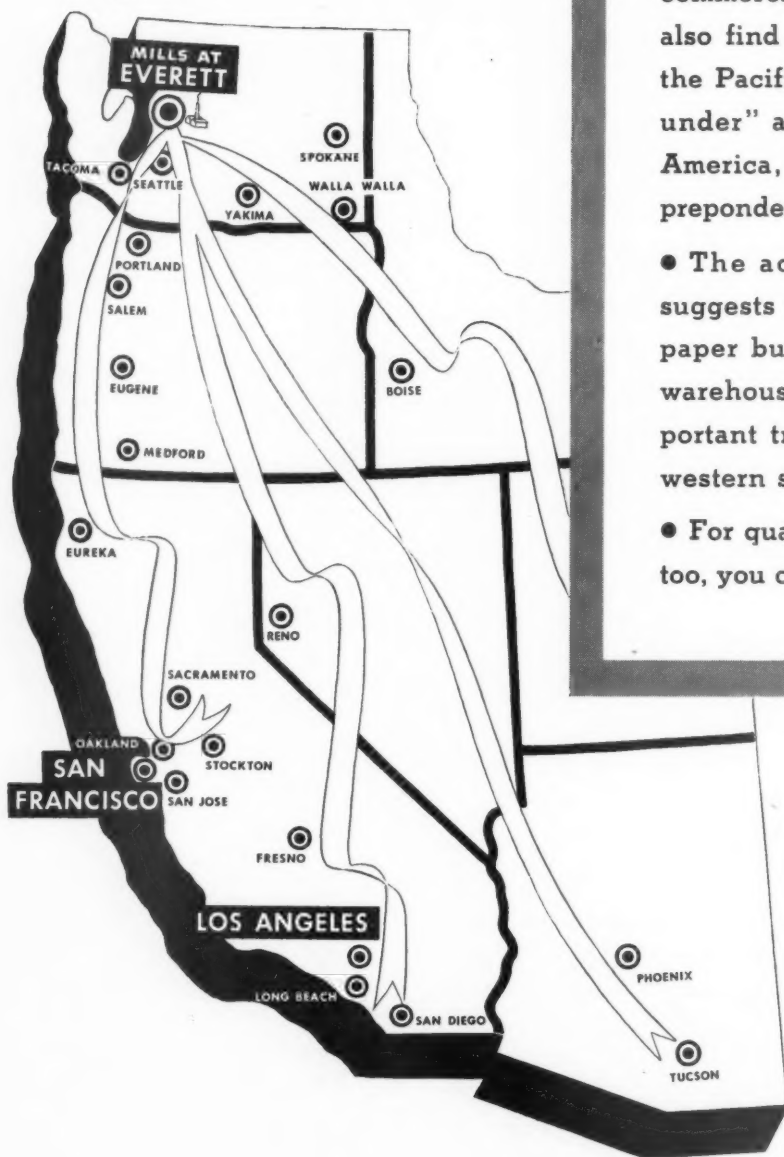
Source: Bureau of the Census, Forest Products, 1938.

TABLE V
Pulpwood Consumption—Quantity by Process of Manufacture,
for the United States: 1938, 1937 and 1936*

Process	1938		1937		1936	
	Cords	Per cent of total	Cords	Per cent of total	Cords	Per cent of total
Total	9,193,991	100.0	10,393,800	100.0	8,715,916	100.0
Mechanical	1,219,306	13.3	1,479,502	14.2	1,365,913	15.7
Sulphite	3,090,046	33.6	4,318,029	41.5	3,483,681	40.0
Sulphate	4,025,540	43.8	3,561,781	34.3	2,939,982	33.7
Soda	718,172	7.8	892,804	8.6	795,981	9.1
Semichemical	140,927	1.5	141,684	1.4	130,359	1.5

*Source: Bureau of the Census, Forest Products, 1938.

Of the West, Western



With mills right here on the Pacific Coast, Everett has naturally built up its chief distribution in the western states. While Everett book and label papers and school and commercial stationery lines also find markets out across the Pacific and even "down under" as well as in South America, home area absorbs preponderance of tonnage.

● The accompanying map suggests the convenience to paper buyers of distributor warehouse stocks at all important trade centers in the western states.

● For quality and for service too, you can Rely on Everett.



EVERETT PULP & PAPER CO.

TABLE VI
Wood-Pulp Production—Quantity, by Process of Manufacture,
for the United States: 1938, 1937 and 1936*

Process	1938		1937		1936	
	Tons of 2,000 pounds	Per cent of total	Tons of 2,000 pounds	Per cent of total	Tons of 2,000 pounds	Per cent of total
Total ¹	5,933,560	100.0	6,572,918	100.0	5,695,219	100.0
Mechanical ¹	1,337,523	22.5	1,610,341	24.5	1,482,977	26.0
Sulphite ¹	1,630,110	27.5	2,174,974	33.1	1,851,099	32.5
Sulphate ¹	2,452,076	41.3	2,144,728	32.6	1,803,448	31.7
Soda	395,307	6.7	510,354	7.8		
Semichemical and other wood pulp	118,544	2.0	132,521	2.0	557,695	9.8

*Source: Bureau of the Census, Forest Products, 1938.

¹Includes data for screenings as follows: 1938, mechanical, 4,215 tons; sulphite, 23,634 tons; and sulphate, 9,025 tons. For earlier years, see published reports.

²Soda and semichemical only. Combined to avoid disclosing approximations of production by individual establishments.

TABLE VII
Wood-Pulp Production, by Quantity and Value, by Process,
for the United States: 1938, 1937 and 1936*

(The value figures for the several census years as given in this table are not strictly comparable for all items)

Process	1938		1937		1936	
	Quantity (tons, 2,000 pounds)	Value (f.o.b. mill)	Quantity (tons, 2,000 pounds)	Value (f.o.b. mill)	Quantity (tons, 2,000 pounds)	Value (f.o.b. mill)
Aggregate	5,933,560	\$180,394,204	6,572,918	\$225,573,125	5,695,219	\$165,272,519
Mechanical, total	1,333,308	24,507,924	1,600,667	30,315,251	1,475,620	25,381,285
Not steamed	1,264,544	23,273,725	1,513,047	28,281,135	1,414,091	24,304,147
Steamed	68,764	1,234,199	87,620	2,034,116	61,529	1,077,138
Sulphite fiber, total	1,606,476	78,079,147	2,140,244	109,920,115	1,821,842	77,190,691
Unbleached, total	601,855	21,303,522	791,575	30,718,426	693,903	22,486,897
Bleached, total	1,004,621	56,775,625	1,348,669	79,201,689	1,127,939	54,703,794
Superpurified	77,193	5,650,868			108,600	6,347,853
Rayon and special chemical grades	151,068	12,704,006			198,994	11,446,079
Other bleached	776,360	38,420,751	995,029	55,330,650	820,345	36,909,862
Sulphate fiber, total	2,443,051	57,694,035	2,139,087	59,437,736	1,794,734	42,122,178
Unbleached	2,122,538	45,544,782	1,923,937	51,096,623	1,639,153	36,482,163
Bleached	320,513	12,149,253	215,150	8,341,113	155,581	5,640,015
Soda fiber, bleached, total	395,307	18,062,562	507,548	23,465,719		
Semichem. and other wood pulp, total	118,544	1,677,716	132,521	1,748,316	557,695	20,148,594
Screenings, total	36,874	372,820	52,851	685,988	45,328	429,771
Mechanical	4,215	31,689	9,674	69,667	7,357	51,158
Chemical	32,659	341,131	43,177	616,321	37,971	378,613

¹Combined to avoid disclosing data for an individual establishment.

²Includes a small quantity of unbleached pulp.

³Soda fiber, bleached and unbleached, and semichemical only. Combined to avoid disclosing data for individual establishments.

*Source: Bureau of the Census, Forest Products, 1938. This report is one of a series of annual reports on pulpwood consumption and wood-pulp production in the United States, published by the Bureau of the Census in Cooperation with the Forest Service, Department of Agriculture.

The questionnaires used in making the canvasses for the even-numbered years carry the following note: "Where pulp is consumed at mill and not sold, please state production cost or price charged to paper plant." The questionnaires used for the odd-numbered (biennial-census) years direct the manufacturers to report the estimated market value, f.o.b. mill. The value figures given for the several years in tables VII and VIII are not, therefore, strictly comparable for all items.

TABLE VIII
Wood-Pulp Production—Average Value per Ton,
for the United States: 1938, 1937 and 1936*

(The figures for the several years as given in this table are not strictly comparable for all items)

	1938	1937	1936
Mechanical:			
Not steamed	\$18.40	\$18.69	\$17.19
Steamed	17.95	23.22	17.51
Sulphite:			
Unbleached	35.40	38.81	32.41
Bleached, total	56.51	58.73	48.50
Superpurified	73.20	(¹)	58.45
Rayon and special chemical grades	84.09	(¹)	57.52
Other bleached	49.49	55.61	44.99
Sulphate:			
Unbleached	21.45	26.56	22.26
Bleached	37.91	38.77	36.25
Soda, bleached	45.69	(²)	41.93
Semichemical and other wood pulp	14.15	13.19	11.60

*Source: Bureau of the Census, Forest Products, 1938.

¹Superpurified and rayon and special chemical grades, \$67.50. Combined to avoid disclosing data for individual establishments.

²Soda, unbleached and bleached, \$46.23.

³Soda, unbleached, \$34.00.

⁴Semichemical only.

Report of the Japanese Wood Pulp Situation in 1939

by CARL H. BOEHRINGER,
Assistant United States Trade Commissioner, Tokyo

General Review for 1939

● Conditions in the Japanese wood pulp market during 1939 and during January and February, 1940, were seriously affected by a combination of circumstances never before encountered. Domestic output was gravely affected by a shortage of raw materials, coal and electric power and by insufficient supplies of water during the summer months. Owing to these shortages and also because the goals set for the year, as part of the five-year pulp production expansion plan announced in 1937, were much too high from the practical standpoint, total output for the year was disappointingly low.

Supplies of wood pulp from countries other than "Manchukuo" continued to be restricted during the year, the shortage being particularly acute with regard to rayon pulp. Purchases of rayon pulp were made on a hand-to-mouth basis when the outbreak of the European War abruptly changed conditions. With rayon pulp in heavy demand in many parts of the world, Japanese buyers suddenly found themselves in the unenviable position of being unable to secure all the tonnage required. The expectations of a marked improvement in the rayon export trade, as a result of the European hostilities, caused the shortage in rayon pulp to become more accentuated.

Another direct effect of the European war was the uncertainty relative to delivery of pulp making equipment for the many pulp enterprises launched during the year in various parts of the Japanese Empire and in "Manchukuo." Specific information on this point is available as regards postponed delivery of equipment from Sweden for a 60,000-metric ton annual capacity plant in Hokkaido Prefecture under construction by the Kokusaku Pulp Company, a semi-official concern established by the Japanese Government some time ago. The non-delivery of this equipment is said to be an all-important factor in causing the government to hold up permits for the establishment of three other mills with aggregate annual capacity of 90,000 metric tons by the same semi-official company.

A prime feature in the domestic industry during 1939 was the lack of progress shown in the production of pulp from sources other than wood. In 1937 and 1938 news of processes invented to make pulp from a wide range of raw materials other than wood was regularly played up in the press, many ambitious as well as modest schemes being projected to take up production on a commercial scale. In 1939, however, it appears that the majority of these schemes were either abandoned or shelved indefinitely, owing to shortage of raw materials, official prohibition of schemes deemed to be impracticable, and miscalculation of the results to be obtained. The production of paper pulp from bagasse in Taiwan (Formosa) is the single important exception, output of such pulp achieving noteworthy proportions in 1939.

Domestic Production

● At the beginning of 1939 it was officially announced that the goal for 1939 production of wood pulp in the Japanese Empire was 1,125,000 long tons, including 924,000 tons of paper pulp and 201,000 tons of rayon pulp. These figures compare with actual production in 1938 of 955,229 long tons, including 851,876 tons of paper pulp and 103,353 tons of rayon pulp.

Several estimates are available covering output in 1939, all of which point to the fact that production failed to reach the announced goal. The December 24, 1939, issue of the vernacular "Chemical Industrial Journal," contained an interesting article by Mr. Kenichi Inouye, managing director of the Oji Paper Manufacturing Company, which practically monopolizes the Japanese pulp and paper industries. Mr. Inouye estimated 1939 production of paper pulp at 847,000 tons and rayon pulp at 160,000 tons, a total of 1,007,000 tons. These figures appear to be excessive for two reasons: (1) estimates made on the basis of figures quoted by Mr. Inouye himself covering actual output during the first 10 months of 1939 are as follows: paper, 837,600 tons; rayon pulp, 157,200 tons; total, 994,800 tons, and (2) in view of the coal and power shortages during the closing months of 1939 there appears to be no reason to expect that output increased to the extent suggested by Mr. Inouye. On the contrary, it is possible that monthly output in November and December was less than the average for the first 10 months.

If it is assumed that output during 1939 ranged between 995,000 tons and 1,007,000, roughly about 1,000,000 tons, it will be seen that the year's production was fully 125,000 tons short of the announced goal.

The February, 1940, issue of the vernacular "Japan Timber Journal" contained an estimate of 1939 rayon pulp production in the Japanese Empire of 167,000 tons, which was admittedly a rough estimate.

A reliable informant (See Note 1) places total 1939 output of rayon pulp, "usable as rayon pulp," in the Japanese Empire and "Manchukuo" at only 152,000 tons, of which presumably about 90 per cent originated in the Japanese Empire and 10 per cent in "Manchukuo."

The estimated output of wood pulp in the Japanese Empire in 1939 is indicated in Table I compared with the reported final totals for the years 1934 to 1938 inclusive.

Details regarding output of wood pulp in "Manchukuo" during 1939 are as incomplete as those covering output in the Japanese Empire. According to Mr. Inouye, managing director of the Oji Paper Manufacturing Company, output during the first 10 months of 1939 amounted to 37,000 tons, including 19,000 tons of paper pulp and 18,000 tons of rayon pulp. Comparative figures for the same period of 1938 were given as follows: total production, 18,000 tons; paper pulp, 5,000 tons and rayon pulp, 13,000 tons. On the basis of these figures, it is estimated that total output was as follows during 1938 and 1939. Table II includes figures covering imports into Japan Proper of pulp from "Manchukuo" in these two years.

Although some variations occur in the foregoing table with regards to output of paper and rayon pulp compared with the respective amounts received in Japan Proper from "Manchukuo," striking similarity exists in the total amount produced during 1938 and 1939 when contrasted with the volume imported into Japan Proper. The total estimated production in 1938 and 1939 approximated 66,000 long tons while the amount imported into Japan Proper was 65,497 long tons.

In an article devoted to the pulp industry during 1939, the "Japan Timber Journal," in the February, 1940, issue, commented upon the output of pulp in "Manchukuo." After pointing to the small amount shipped to Japan in 1939, approximating 48,000 tons, the writer recalled the fact that "Manchukuo" is

Highlights of Mr. Boehringer's Report

Domestic wood pulp output was disappointingly low in 1939 due in part to a shortage of raw materials, coal and electric power and by insufficient water during the summer months.

Pulp imports were severely restricted and the shortage was particularly acute in rayon pulp. European war causes Japan to turn to United States and Canada for larger percentage of pulp imports but doubt is expressed that Japan will be able to obtain all the pulp desired in 1940.

Five-year program of expansion in pulp production in Japan and Manchukuo believed impossible of realization. Production of pulp from wood substitutes proving a disappointment with the exception of pulp produced from bagasse in Formosa. Manchukuo's pulp producing possibilities in the near future are believed to have been overestimated.

TABLE I
Production of Wood Pulp, Japanese Empire, 1934-38
(In long tons)

Year	Paper Pulp	Rayon Pulp	Total Pulp
1934	691,836	17,160	708,996
1935	724,042	33,435	757,477
1936	747,356	55,209	802,565
1937	829,684	57,294	886,978
1938	851,876	103,353	955,229
1939 (Official goal)	924,000	210,000	1,125,000
1939 Estimate (*)	847,000	160,000	1,007,000
1939 Estimate (**)	837,600	157,200	994,800

(*) Estimate made by Mr. Keniichi Inouye, managing director of the Oji Paper Manufacturing Company.

(**) Estimate made by the present writer on basis of 10 months' production totals reported by Mr. Inouye.

slated to produce 300,000 tons of pulp by the end of 1942. "One must say that they (Manchurian producers) have a long way to go in filling the estimated amount," the writer concluded.

Establishment of the Nichiman Pulp Rengokai

● During 1939, the Nichiman Pulp Rengokai (Japan "Manchukuo" Pulp Association) was organized. This association replaced the Nichiman Pulp Ken-shin Kai (Japan "Manchukuo" Pulp Social Gathering) owing to the fact that the Department of Commerce and Industry was interested in having a strong control organization established for the purpose of expanding production. The association is composed of 33 companies.

Outlook for Production in 1940 and the Five-Year Plan

● It will be recalled that in 1937 the Japanese government announced a five-year plan for increased pulp production in the Japanese Empire and in "Manchukuo." According to this plan, output by the end of 1942 would be so large as to bring about complete self-sufficiency in pulp.

The five-year plan is now in its third year and every indication points to the fact that the goal set by the end of 1942 cannot be realized. Output in 1939 was fully 125,000 tons short of the goal set for the year. The prospects for 1940 point to an even wider divergency between actual output and the goal for the year laid down in the five-year plan.

The "Japan Timber Journal," in the February, 1940, issue, pointed out that when the Cabinet Planning Board announced the five-year plan in 1937 conditions were different from what they are now. In those days, there were no shortages of electricity and coal. Now, however, such shortages require that the plan be drastically altered. The writer concluded with the following remark: "Dream plans should be dropped and practical plans should be made."

The five-year pulp production expansion plan has failed, not only because of electric power and coal shortages, but also because too great reliance was placed on output of pulp from products other than wood. According to the February, 1940, issue of the "Japan Timber Journal," during 1939 "the substitute pulp production projects disappeared like dew in the morning sun." In addition, too much was expected from "Manchukuo," where conditions are much more unfavorable than in the Japanese Empire.

It is still too early to make any accurate estimates regarding output in 1940 but it seems safe to say that even by the end of 1940 the goal set for 1939 will not be reached. As previously indicated, that would require an increase in production of about 125,000 tons, an increase of 12.5 per cent over the estimated 1939 output. Owing to electric power and coal shortages, difficulties in securing timber and other raw materials, non-delivery of pulp mill equipment from abroad, and uneconomic nature of many projects, it does not seem likely that output will be increased by more than 60,-

000 tons. In making this estimate, which would make total 1940 output approximate 1,060,000 tons, it must be confessed that there is a strong possibility that even this modest increase in production may not be realized.

Rayon Pulp Supply and Demand

● Consumption of rayon pulp early in 1940 was being made at the rate of about 250,000 to 260,000 tons a year. With production of rayon pulp in the Japanese Empire and in "Manchukuo" not likely to exceed 160,000 tons of usable rayon pulp, it is obvious that about 100,000 tons of rayon pulp will have to be imported. The heavy demand for Japanese rayon abroad may bring about an increased demand for imported and quality rayon pulp.

Early in 1940, prompted by the favorable export prospects for rayon and staple fiber, Japanese manufacturers reportedly approached the Department of Finance for permission to import about 200,000 tons during 1940. Pulp importers were then advised to see how much pulp they could secure from abroad. Ascertaining that they could not hope to secure any amount like 200,000 tons, they applied for permits covering 46,800 long tons. The Finance Ministry issued permits for this tonnage on February 9, 1940. The amounts allocated to various countries follow: United States, 16,500 tons; Canada, 6,000 tons; Norway, 10,100 tons; Sweden, 9,000 tons, and Finland, 5,200 tons. Details covering amounts ordered by companies are given in the accompanying list.

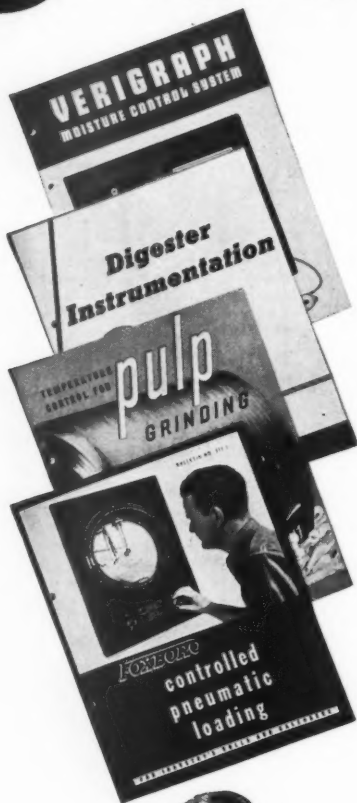
TABLE II
Production of Wood Pulp in "Manchukuo," 1938-1939
(Volume in long tons)

Production (*)	1938	1939	Total
Paper pulp	6,000	22,800	28,800
Rayon pulp	15,600	21,600	37,200
	21,600	44,400	66,000
Imports of Pulp from "Manchukuo" into Japan Proper (**)			
Paper pulp	4,382	17,832	22,214
Rayon pulp	12,720	30,563	43,283
	17,102	48,395	65,497

(*) Based on production figures for 10 months of each year reported by Mr. Keniichi Inouye, managing director of the Oji Paper Manufacturing Company, and published in the December 24, 1939, issue of the "Chemical Industrial Journal."

(**) Based on data released by the Japan Paper Manufacturers' Association, Tokyo.

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TABLE III
Production of Paper, Rayon Yarn and Staple Fiber, 1938-39
 (Volume in 1,000 pounds)

	4th Qtr. 1938	4th Qtr. 1939	Year 1938	Year 1939
Paper (*)	499,753	505,226	1,948,455	2,017,670
Rayon yarn (**)	39,861	57,930	199,976	228,741
Staple fiber (***)	80,620	49,012	327,366	243,719

(*) By companies affiliated with Japan Paper Manufacturers' Association.

(**) By companies affiliated with Federation of Rayon Manufacturers.

(***) By companies affiliated with Japan Staple Fiber Manufacturers' Association.

This pulp is scheduled to arrive here between April and June, 1940. The average valuation per short ton of 2,000 pounds is in the neighborhood of \$90 (American) c.i.f. The method of payment is cash against documents on all orders.

According to a reliable informant, it will be very difficult for Japan to secure some 50,000 tons additional during the last half of 1940, owing to heavy world demand and difficulties in receiving pulp from Scandinavian countries, principally Finland. Demand for American and Canadian pulp accordingly should improve but information at hand indicates that pulp mills located in the United States and Canada have made contracts at home and in other markets for much of their output.

In the case of two American companies, this was done when Japanese buyers broke existing contracts in 1938 and 1939. Had the contracts not been broken, Japan would now not be in the position of being caught short at a time when it needs increased quantities of high grade rayon pulp to meet the expanded export demand for rayon and staple fiber.

Activity of Pulp Consuming Industries

● Paper output by companies affiliated with the Japan Paper Manufacturers' Association during the 1939 fourth quarter aggregated 505,226,000 pounds, a decline of 2.7 per cent from the preceding quarter. Output of rayon yarn was only 0.5 per cent below the third quarter's total but production of staple fiber was fully 21 per cent less. Details are presented in Table III.

Output of paper by companies affiliated with the Japan Paper Manufacturers' Association during 1939 was slightly greater than in 1938. Rayon yarn output gained by 14 per cent in contrast to a decline of almost 26 per cent in output of staple fiber.

Wood Pulp Consumed In Paper Manufacture

● The total amount of chemical and mechanical paper pulp consumed by companies affiliated with the Japan Paper Manufacturers' Association during the 1939 fourth quarter was 478,605,000 pounds, a slight increase from the 475,486,000 pounds consumed in the preceding quarter. During the entire year of 1939 the total amount of pulp consumed was equal to 1,862,889,000 pounds compared with 2,022,954,000 pounds consumed in 1938. Details covering wood pulp consumed by the associated companies are presented in the accompanying table.

It will be noted that one company dur-

ing 1939 also consumed 1,966,000 pounds of straw pulp for paper manufacture. Corresponding data for 1938 are not available.

Bank of Japan's Pulp Price Indexes

● Pulp prices in Japan during 1939 averaged less than in 1938 and 1937 but were substantially above levels prevailing in 1936, according to average wholesale market price indexes published by the Bank of Japan. With 1933 equal to 100, the average index for 1939 was 155 compared with 179 in 1938, 165 in 1937 and 102 in 1936. Table IV presents these indexes by months for the years 1936 to 1939 inclusive.

According to the Bank of Japan, the foregoing indexes cover imported and domestic paper and rayon pulp. The decline in 1939 is believed to be attributable to official coercion during the first half of the year and to the fact that on July 18, 1939, maximum sales prices were fixed by the government. It is of interest to note that during the first half of the year the average price index was 163. As a direct result of official action, however, the average price index for the second half had dropped to 147.

Imports of Wood Pulp, Fourth Quarter, 1939

● Imports of wood pulp into Japan Proper during the 1939 fourth quarter included 42,599 long tons of rayon pulp and 5,878 tons of paper pulp, the total of 48,477 tons being the largest per quarter imports since the first quarter of 1939. Table V summarizes the imports of wood pulp into Japan by quarters during 1938 and 1939.

A glance at the trend of wood pulp imports, showing average imports of wood pulp per quarter during the years

1936 to 1939 inclusive, will reveal how drastically imports were curtailed in 1938 and 1939. The heavier loss was recorded in imports of paper pulp, in which the Japanese Empire is practically self-sufficient.

The official statistics covering imports of wood pulp during the fourth quarters of 1938 and 1939 are presented in Table VI as reported in the monthly return of the foreign trade of Japan.

Detailed official figures covering imports of paper and rayon pulp separately during the fourth quarters of 1938 and 1939 are not available. Unofficial data are available, however, as reported by the Japan Paper Manufacturers' Association and reported in its monthly trade journal. These figures are based on the customs reports and the totals check closely with those reported in the official trade return. The Association reports these figures in pounds, converted from 100 kin at a slightly higher rate than the officially accepted rate of 100 kin equal to 132.2772 pounds.

It will be noted that all of the paper pulp imported during the fourth quarters of 1938 and 1939 was chemical paper pulp, no mechanical paper pulp being imported during these periods, according to the Japan Paper Manufacturers' Association.

Imports of Wood Pulp in 1939

● Total arrivals of wood pulp during 1939 were 167,410 long tons of Yen 56,537,000, gains of 16 per cent and 34 per cent respectively from the corresponding totals in 1938. Compared with the peak 1937 imports, however, the volume declined by 64 per cent as opposed to a value decline of 51 per cent. A summary of total imports of wood pulp during the years 1937 to 1939 inclusive is presented in Table VIII.

TABLE IV
Tokyo Wholesale Market Price Indexes for Wood Pulp
 (1933 equals 100)

Month	1936	1937	1938	1939
January	98	124	186	168
February	98	134	184	168
March	100	143	184	162
April	100	156	181	162
May	100	162	182	162
June	101	165	182	157
July	101	174	178	147
August	102	183	178	138
September	102	184	178	150
October	104	188	173	150
November	109	186	173	147
December	117	185	172	147
Average	102	165	179	155

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The detailed figures covering imports of wood pulp by countries of origin during the years 1937 to 1939 are presented in Table IX, as reported in the official monthly trade return for December, 1939.

Arrivals of paper and rayon wood pulp by countries of origin during the years 1938 and 1939 are presented in Table X, as reported by the Japan Paper Manufacturers' Association.

During 1939 all paper pulp imports were chemical paper pulp with the exception of 101,600 pounds of mechanical paper pulp imported from Finland.

Imports During 1930-39

● In order to show the trend of wood pulp imports from main supplying areas over a longer period, Table XI is presented covering imports during the years 1930 to 1939 inclusive.

Exports of Wood Pulp

● Exports of wood pulp during the fourth quarter of 1939 aggregated 284,396 pounds compared with no exports during the same quarter in 1938 and 1937. During the entire year of 1939 these shipments amounted to 371,699 pounds against only 2,646 pounds in 1937 and 5,811,070 pounds in 1937.

New Companies, New Mills, Plant Extensions, etc.—Japan Proper

● The ambitious schemes of the semi-official Kokusaku (national policy) Pulp Company, capitalized at Yen 80,000,000, quarter paid up, to construct three large pulp plants for eventual production of 150,000 metric tons of pulp annually have fallen short of expectation. According to a trade report appearing in January, 1940, the mill at Asahigawa, in Hokkaido Prefecture, is expected to be completed and ready for test operations by May or June, 1940. Delay in receipt of the necessary pulp manufacturing equipment from Sweden, however, has prevented the company from pushing through its plans for this mill as rapidly as scheduled. According to a reliable report, the Swedish equipment had not been received by the end of January, 1940.

The Asahigawa mill of the Kokusaku Pulp Company is designed to turn out

60,000 tons of pulp a year. In addition, the company has announced plans for the construction of three other mills, the combined productive capacity of all four mills being 150,000 tons, including 90,000 tons of rayon pulp and 60,000 tons of paper pulp. The three new mills will tentatively be located at Notsukeushi and Horonai, in Hokkaido Prefecture, and at Tsurusaki, on Kyushu Island. Official permission to start work on these three plants is not likely to be granted in the near future, trade reports indicate, owing to the delay in receipt of equipment for the Asahigawa plant.

The Japan Pulp Company was established some time ago in order to produce rayon pulp from a species of Japanese cedar. Difficulty was encountered in bleaching this pulp and no progress was made until the management of the firm was transferred from the Kotobuki Heavy Industry Company to the Oji Paper Manufacturing Company. Technicians from the Oji Paper Company decided to use "akamatsu" (red pine) as raw material instead of cedar and have reportedly been able to turn out a good grade of rayon pulp. This development is said to be one of the outstanding events of the Japanese pulp industry in 1939.

The Toyama pulp mill of the Nisso Rayon Pulp Company has an annual capacity of 20,000 tons. Permission to expand the productive capacity by 10,000 tons a year was requested from the Department of Commerce and Industry, which gave the necessary permission in September, 1939. This company imports its pulp logs from Canada and has one of the best mills in the country. If the Government decides to restrict or prohibit importation of Canadian logs, it is reported the company is prepared to use domestic logs.

The Toda mill of the Taiyo Pulp Company, located at Ashidatemura, Saitama Prefecture, was enlarged during the summer and fall of 1939 so that present productive capacity approximates 400 tons of pulp a month. The Taiyo Pulp Company subsequently sold the mill to the Hokuetsu Paper Company, which will operate it under the name of the Toda pulp mill.

The straw pulp plant of the Rasa Pulp Kogyo Kaisha (Rasa Pulp Manufacturing Company) located at Takami-machi, Nishi Yodokawa-ku, Isaka, has been con-

ducting test operations since May, 1939. By September, 1939, it had achieved an output of 20 metric tons daily. The straw pulp is said to be very good, according to a report in the monthly trade journal of the Japan Paper Manufacturers' Association, and it will be distributed by the Osaka firm of Itochu Shoji Kaisha.

The Sanyo Pulp Company, an affiliate of the Oji Paper Manufacturing Company, started trial runs during August, 1939. According to a report dated December 27, 1939, it was scheduled to start production at full capacity in January, 1940. The announced productive capacity of this firm's mill is given as 40,000 metric tons a year.

The pulp mill of the Fukuoka Pulp Industrial Company at Tokoji, Fukuoka city, Kyushu, is being constructed at a cost of Yen 100,000, a trade report dated January 9, 1940, stated. The new plant, scheduled for completion before the end of the first quarter of 1940, will have a monthly capacity of 120 metric tons.

New Companies, New Mills, Plant Extensions, etc.—Chosen (Korea)

● According to a report dated December 9, 1939, released by the Nikkan Kogyo Shimbun (Daily Industrial News), of Osaka, the North Chosen Paper Chemical Industrial Company, has decided to increase its production of pulp in view of the Japanese Government's decision not to sponsor the establishment of the North Manchurian Pulp Company in "Manchukuo" with an annual capacity of 250,000 metric tons. The North Chosen Company, a subsidiary of the Oji Paper Manufacturing Company, owns a pulp plant with an annual productive capacity of 20,000 metric tons at Kichishu, North Chosen. According to the announced scheme, the company will double the productive capacity of its Kichishu plant and will also erect two new pulp plants in west Chosen districts. Upon receipt of official permission, the company will call in Yen 10,000,000 of unpaid capital shares in order to finance these projects.

The Nisso Rayon Pulp Company is planning to take up the production of reed pulp in Chosen, according to a trade report dated December 13, 1939. A plant is scheduled for erection at

TABLE V
Trend of Wood Pulp Imports, Japan Proper
(Volume in long tons—value in Yen 1,000)

	Rayon	Paper	Total	Total Value
1938				
First Quarter	55,492	18,167	73,659	20,142
Second Quarter	45,690	3,436	49,126	14,962
Third Quarter	6,757	2,888	9,645	3,391
Fourth Quarter	6,145	5,207	11,352	3,687
1939				
First Quarter	59,450	7,249	66,699	26,330
Second Quarter	11,415	7,570	18,985	6,265
Third Quarter	27,212	6,037	33,249	9,639
Fourth Quarter	42,599	5,878	48,477	14,303
Average per Quarter				
1936	42,342	39,275	81,618	16,777
1937	72,632	44,022	116,654	29,180
1938	28,521	7,424	35,945	10,545
1939	35,169	6,683	41,852	14,134

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NORTON ABRASIVES

Shingishu, Chosen, while reeds for pulp manufacture are to be secured from Haichow and Shingishu.

New Companies, New Mills, Plant Extensions, etc.—Taiwan (Formosa)

● The Ensuiko Sugar Company is expected to start marketing its bagasse pulp in the spring of 1940, a trade report dated January 9, 1940, stated. This bagasse pulp, suitable for paper manufacture, will be distributed by the Mitsui Bussan Kaisha and the Ataka Shokai.

With the object of executing the single-unit production from pulp to paper, the Formosan Pulp Industrial Company apparently is making secret negotiations with the Formosan Paper Manufacturing Company for a merger of the two concerns, a trade report dated January 26, 1940, indicated. The Formosan Pulp Industrial Company, established jointly by the Showa Sugar, Japan Sugar and Kanegafuchi Spinning Companies, engages in the production of

bagasse pulp at the annual rate of 15,000 metric tons. As a result of the absorption of the Showa Sugar Company by the Japan Sugar Company, the actual management of the pulp firm has been taken over by the last named concern.

New Companies, New Mills, Plant Extensions, etc.—"Manchukuo" (Manchuria)

● That existing pulp mills in "Manchukuo" are having a difficult time to make ends meet is evident from several trade

TABLE VI
Imports, Wood Pulp, Japan Proper, 4th Quarter, 1938-39
(Volume in 100 kin—value in yen)

From:	4th Quarter—1938		4th Quarter—1939	
	Volume	Value	Volume	Value
United States	3,249	46,981	227,045	4,332,006
Canada .....	.....	2	32,185	441,023
Sweden	39,474	559,637	86,199	1,205,031
Norway	848	19,559	146,389	2,536,439
Finland	1,633	22,237	146,072	2,280,174
Czechoslovakia	4,165	62,296	.....	.....
Others	142,861	2,976,058	183,022	3,508,413
Total	192,230	3,686,770	820,912	14,303,086

Note: 100 kin equal 132.2772 pounds or 60 kilograms; no imports from Great Britain or Germany during the fourth quarters of 1938 and 1939; practically all imports shown under "Others" from "Manchukuo."

TABLE VII
Imports, Paper and Rayon Pulp, Japan Proper, 4th Quarter, 1938-39
(Volume in 1,000 pounds)

From:	4th Quarter—1938			4th Quarter—1939		
	Paper	Rayon	Total	Paper	Rayon	Total
United States	432	1	433	4,638	25,635	30,273
Canada .....	.....	.....	.....	.....	4,291	4,291
Sweden	5,263	.....	5,263	364	11,129	11,493
Norway .....	.....	113	113	1	19,518	19,519
Finland	218	.....	218	.....	19,476	19,476
Czechoslovakia .....	.....	555	555	.....	.....	.....
"Manchukuo" .....	.....	.....	.....	8,269	16,134	24,403
Others	2,457	6,720	9,177	.....	.....	.....
Total	8,370	7,389	15,759	13,272	96,183	109,455

Note: Imports from "Manchukuo" included under "Others" in 1938; no imports during either period from Great Britain, Italy, Germany, France and Switzerland.

TABLE VIII
Summary, Imports, Wood Pulp, Japan Proper, 1937-39
(Volume in long tons—value in yen 1,000)

	1937		1938		1939	
	Volume	Value	Volume	Value	Volume	Value
Paper pulp	176,088	36,349	29,698	7,712	26,734	7,659
Rayon pulp	290,527	80,371	114,084	34,469	140,676	48,878
Total	466,615	116,720	143,782	42,181	167,410	56,537
Per Cent From:						
United States	40.03	42.1	35.8	35.8	29.4	33.2
Canada	11.1	10.8	11.7	11.9	5.5	3.9
Sweden	26.0	23.1	17.3	14.9	8.4	7.2
Norway	13.3	14.6	12.6	12.8	16.0	16.6
Finland	8.1	8.0	8.7	7.9	11.8	10.2
Others (*)	1.2	1.4	13.9	16.7	28.9	28.9

(*) Practically all from "Manchukuo."

TABLE IX
SUMMARY-JAPANESE IMPORTS OF WOOD PULP
1928-1939

Short Tons

Year	U.S.A.	Sweden	Norway	Canada	Finland	Others	Total
1928	16,107	7,297	7,820	32,895	-----	17,899	82,048
1929	16,195	10,413	16,034	38,935	-----	8,609	90,199
1930	6,200	6,844	18,750	48,989	-----	7,953	88,736
1931	22,518	20,348	11,531	54,941	-----	8,649	112,985
1932	24,804	18,057	24,220	30,183	-----	16,219	113,483
1933	50,042	29,130	34,934	52,238	-----	13,104	179,449
1934	93,760	53,048	44,342	45,051	-----	16,544	252,746
1935	122,315	56,745	54,416	38,545	28,018	2,740	302,780
1936	172,493	63,089	62,584	31,133	34,684	2,320	362,802
1937	209,069	136,528	68,729	58,265	42,314	8,636	523,541
1938	57,744	27,831	20,322	18,801	14,016	22,372	161,036
1939	55,225	15,748	29,932	10,311	22,212	54,075	187,503

From a report by the U. S. Bureau of Foreign and Domestic Commerce. Data from Japanese Department of Finance. Data for 1939 from "Monthly Trade Return of Japan," December, 1939.

TABLE X
Imports of Paper and Rayon Pulp, Japan Proper, 1938-39
(Volume in 1,000 pounds)

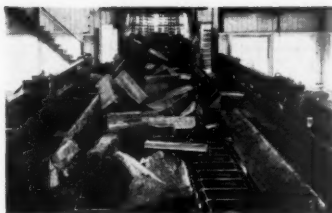
From:	1938			1939		
	Paper	Rayon	Total	Paper	Rayon	Total
U. S. A.	20,092	96,216	116,308	12,423	98,906	111,329
Canada	1,308	36,596	37,904	1,835	18,952	20,787
Sweden	29,019	27,088	56,107	2,186	29,561	31,747
Norway	1,014	40,963	41,977	1	60,340	60,341
Finland	5,019	23,237	28,256	3,572	41,206	44,778
Switzerland	294	339	633	396	164	560
Great Britain	(*)	-----	(*)	-----	-----	-----
Germany	(*)	255	255	-----	-----	-----
Czechoslovakia	-----	1,138	1,138	-----	-----	-----
Italy	-----	1	1	-----	-----	-----
"Manchukuo"	9,816	28,471	38,286	39,945	68,501	108,446
Others	34	3,283	3,319	4	-----	4
Total	66,596	257,588	324,184	60,362	317,630	377,992

(*) Less than 500 pounds.

TABLE XI
Imports of Wood Pulp Into Japan Proper, 1930-39
(Volume in long tons)

Year	U.S.A.	Canada	Sweden	Norway	Finland	Others	Total
1930	5,525	43,662	6,101	16,711	(*)	7,088	79,087
1931	20,069	48,967	13,590	10,277	(*)	7,708	100,611
1932	22,107	26,902	16,094	21,586	(*)	14,455	101,144
1933	44,601	46,558	25,963	31,135	(*)	11,679	159,936
1934	83,565	40,153	47,280	39,521	(*)	14,745	225,264
1935	109,015	34,354	50,575	48,499	25,016	2,398	269,857
1936	153,737	27,748	56,229	55,779	30,968	2,012	326,473
1937	188,118	51,930	121,683	62,147	37,780	4,957	466,615
1938	51,512	16,787	24,849	18,145	12,514	19,975	143,782
1939	49,307	9,206	14,060	26,725	19,832	48,280	167,410
Average	72,756	34,627	37,642	33,053	12,611	13,329	204,018
Per cent	35.6	17.4	18.4	16.2	6.1	6.3	100.0

(*) Included under "Others" prior to 1935; imports of "Others" in 1938 and 1939 practically all from "Manchukuo."



Picking Table Conveyor over chippers



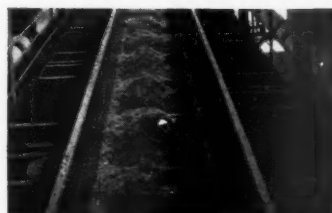
Belt Conveyor handling chips

Make

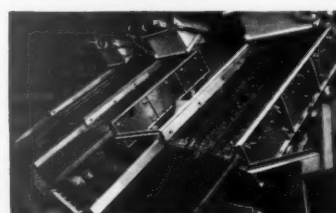
Production Economies

with

Link-Belt



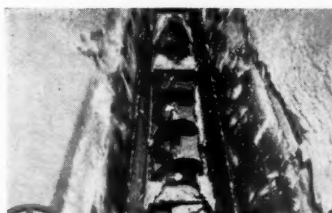
Hogged Fuel Conveyor



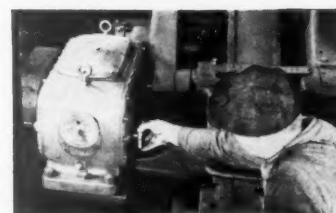
Vibrating Screens handling chips

Conveyor and Transmission

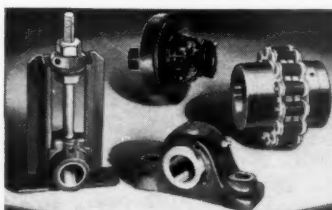
Units



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Paper Pulp Consumed by Companies Affiliated With the Japan Paper Manufacturers' Association

(Volume in 1,000 pounds)

1938	Chemical Paper Pulp			Mechanical Paper Pulp			Total Paper Pulp		
	(1)	(2)	Total	(1)	(2)	Total	(1)	(2)	Total
First Qtr.	184,756	59,445	244,201	186,276	4,830	191,106	371,032	64,275	435,207
Second Qtr.	194,137	59,129	253,266	195,883	5,259	201,142	390,010	64,388	454,408
Third Qtr.	200,048	54,040	254,088	208,017	9,644	217,661	408,065	63,684	471,749
Fourth Qtr.	197,742	48,344	246,086	204,978	8,242	213,220	402,720	56,586	459,306
1939									
First Qtr.	185,655	41,954	227,609	194,974	9,723	204,697	380,629	51,677	432,306
Second Qtr.	205,585	42,540	248,125	216,450	11,917	228,367	422,035	54,458	476,493
Third Qtr.	202,652	43,048	245,700	218,543	11,243	229,786	421,195	54,291	475,486
Fourth Qtr.	212,403	41,022	252,425	216,406	9,774	226,180	427,809	50,796	478,605
Total 1937	888,077	338,994	1,227,071	774,230	21,653	795,883	1,662,307	360,647	2,022,954
Total 1938	776,683	220,958	997,641	795,154	27,975	823,129	1,571,837	248,933	1,820,770
Total 1939	805,295	168,564	973,859	846,374	42,656	889,030	1,651,669	211,220	1,862,889

(1) Pulp produced and consumed by same companies.

(2) Pulp purchased on open market, including domestic and imported pulp.

Source: Monthly trade journal of the Japan Paper Manufacturers Association.

and press reports appearing locally in December, 1939, and January and February, 1940. Shortages in supplies of lumber and coal allowed the pulp mills are reportedly responsible but information obtained from reliable factors in the pulp business points to additional obstacles. The location of the four important wood pulp mills in almost every case appears to be unfavorable, as regards transport of logs to the mills and availability of adequate supplies of fresh, running water so vitally needed for pulp manufacture. Further, the mills are all located at considerable distance from shipping ports, making the charges for railroad transportation for the finished product relatively high.

Much has been written about development of Manchuria as an increasingly important source of supply for pulp for the Japanese market but all information available to date points to the fact that Manchuria's potentialities have been over-estimated, at least insofar as the relatively near future is concerned. An important inhibiting factor, not mentioned above, are the regulations enforced by the Japanese authorities in Manchuria which prevent the four important wood pulp mills from increasing their capacity from 10,000 metric tons a year each to 15,000 metric tons, as originally provided for when the plants were established several years ago. This point has proved highly vexatious to the operators of the pulp mills, all important Japanese companies, officials of which repeatedly have pointed out that the Japanese authorities in Manchuria are not gifted with sound economic knowledge and that such points as plant efficiency leaves them unmoved. A report in the February 26, 1940, issue of the "Japan Times & Mail," Tokyo, stated that the "Manchukuo" Department of Industry had tentatively agreed to permit the four companies to expand their production to 15,000 metric tons each but formal permission has not yet been given. In view of the fact that similar reports have regularly appeared during the past 18 months, it is obvious that the present report must be accepted with reservation.

On December 21, 1939, it was reported that several pulp expansion plans in "Manchukuo" were being held in abeyance. For instance, Kanegafuchi Spinning Company had not yet started work on its projected pulp mill at Chiamusu, while the Oji Paper Manufacturing Company had decided not to accept an offer to manage the Yaheishih pulp plant. The difficulties of the four im-

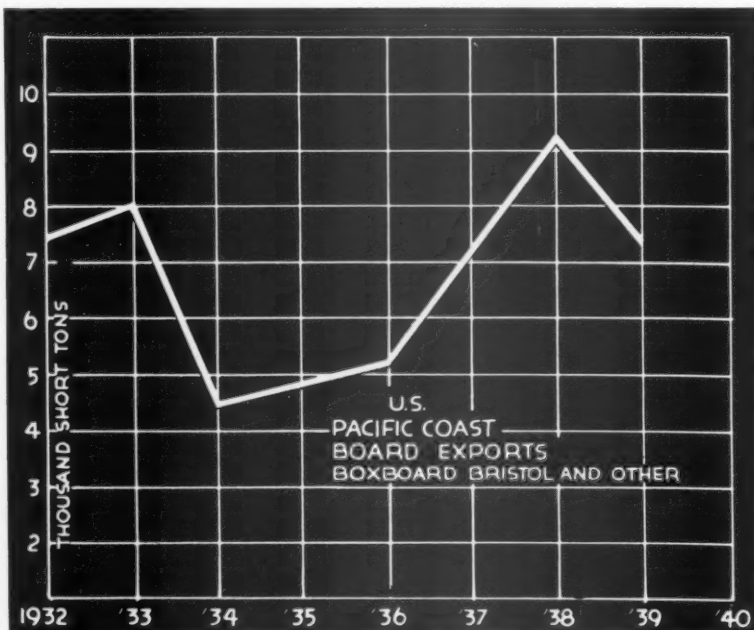
portant wood pulp mills in securing timber and coal were also commented upon. This report stated that the semi-official Manchurian Industrial Development Company had decided to unify all pulp enterprises in Manchuria and that it

was conducting negotiations for the purchase of several mills. This threat of official operation of all pulp mills is said to have made all firms contemplating erection of new mills in Manchuria to adopt a waiting attitude.

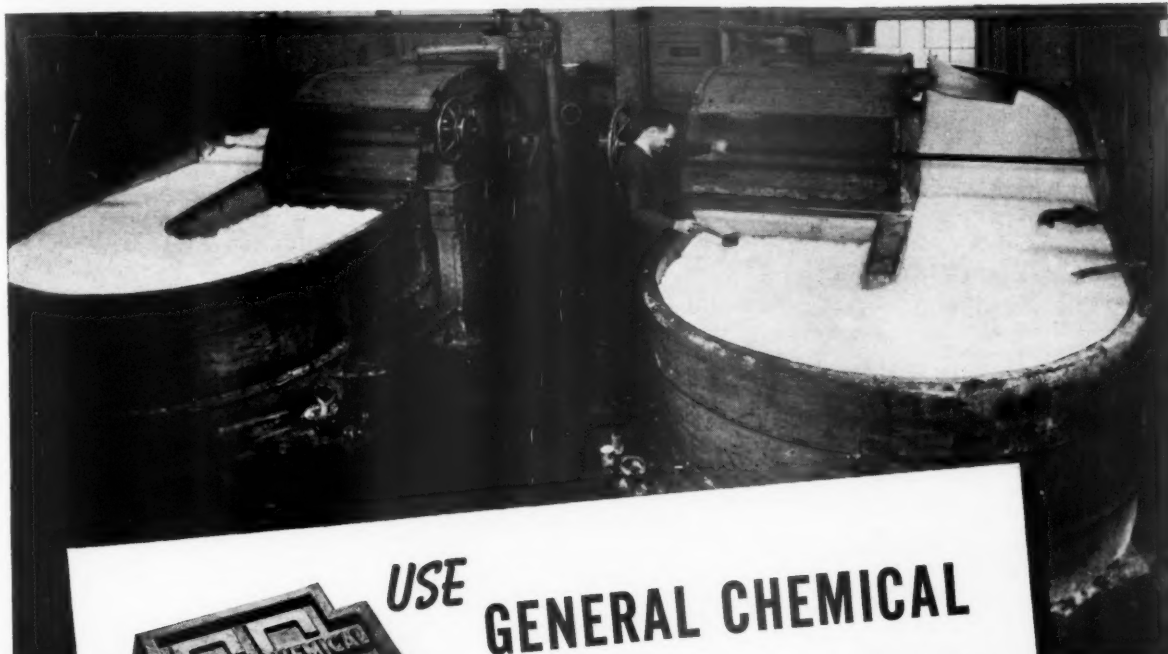
Details of Rayon Pulp Quotas Covered by Permits Issued on Feb. 9, 1940, for Importation Into Japan Between March and June (In long tons)

Country	Company	Volume
United States	Rayonier Incorporated	*10,000
United States	Brown Company	6,500
Canada	British Columbia Pulp & Paper Company	6,000
Norway	Borregard	8,000
Norway	Saugsbrugs Foreningen	2,100
Sweden	Billeruds	6,000
Sweden	Uddeholm	3,000
Finland	Kaukas	5,200
Total		46,800

(*) Including 1,000 tons from Rayonier's new pulp mill in Florida and 9,000 tons from Tacoma, Washington.



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Self-Opening with full-length (strip) window
Self-Opening with die-cut window
Flat & Square—
Full-face window
Partial face (strip) window
Waxed Bags—
One Side
Two Sides
Pre-printed
Catalog Envelopes, Open End
Kraft Bags, Miscellaneous except Grocery
Flat
Square

Flavo-Fresh Sandwich Bags
Sani-San Sandwich Bags
(For consumer re-sale)

COOS BAY PULP CORPORATION

Empire, Oregon

Unbleached Sulphite Pulp

CROWN MATCH COMPANY

Los Angeles

Products

Paper Book Matches

CROWN WILLAMETTE PAPER COMPANY

Division Crown Zellerbach Corporation

Camas, Wash.; West Linn, Ore.;
Lebanon, Ore.

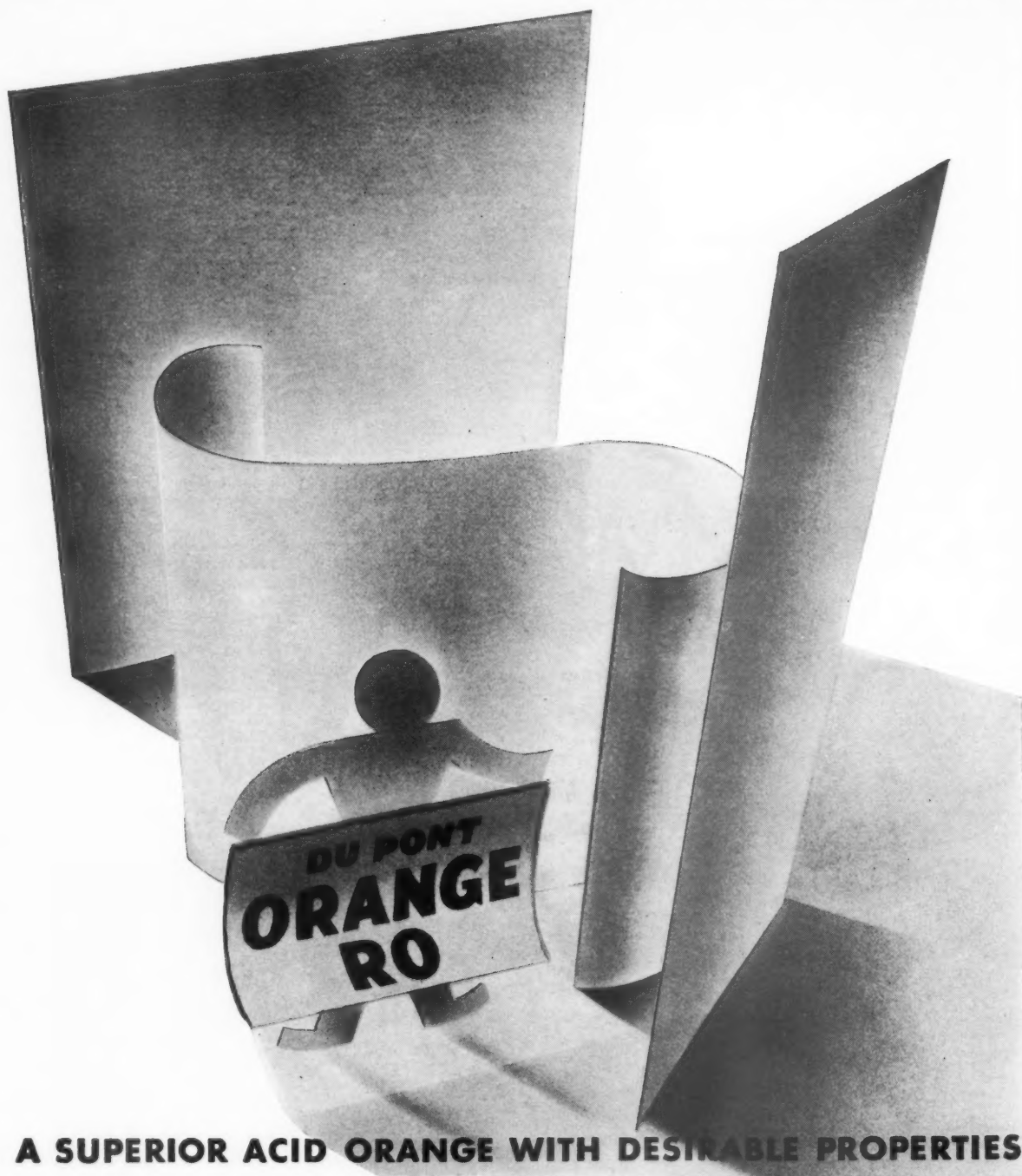
Products

Towels—

Alfibre—Senior, Junior and Midget (folded)
Alfibre—(Roll)
Aristocrat, 2-ply (folded)
Kraftspun—Senior, Junior and Midget (folded)
Crown Kraft—Midget (folded)
Radiant—(Roll)
Milady Household Roll Towels
Bakers Bags—
Crown Satina Sulphite Bread Bags
Crown Bleached Satina Sulphite Bread Bags
Bleached Sulphite Wrapping—
Crown Snowfibre, M. F.
Crown Damask Alfibre, M. G.
Butcher Papers—
Crown Alpine Meat Wrap—S. F. White Full Bleached
Crown Meat Wrap—S. F. Natural
Crest Meat Wrap—S. F. or W. F. Natural
Crest Butcher Fibre—W. F. Mottled, Natural



LAST YEAR a second type of paper milk bottle was introduced on the Pacific Coast by The American Can Company, after several years of successful development of its square container in the Metropolitan New York area, introduced it into California, establishing plants in San Francisco and Los Angeles.



A SUPERIOR ACID ORANGE WITH DESIRABLE PROPERTIES

• DU PONT ORANGE RO is widely used for producing orange shades on all grades of sized papers. It foams less than other acid orange dyestuffs—has better affinity for the fibers—gives clearer backwaters.

When using this product in heavy shades, foam difficulties in the beaters, screens or head-box are reduced to a minimum.

Du Pont Orange RO possesses very good solubility and is economical to use. When used alone or in combination with Du Pont Brilliant Crocein FL, brilliant orange to scarlet shades may be obtained on all grades of stock.



E. I. du Pont de Nemours & Co. (Inc.)
Organic Chemicals Department
Dyestuffs Division
Wilmington, Delaware, U. S. A.

Crest Moisture Butcher—Dry Finish (Natural), Pink, White
 Crest Veribest Butcher—S. F. Pink
 Premium Meat Wrap—Pink

Citrus Tissues — Plain and Printed
 Crown Citrus

Colored and Striped M. G. Sulphite Wrapping—
 Crown Damask Alfibre—M. G. wide stripe
 Crown Whitefibre—M. G. narrow stripe

Commercial Wrapping Tissue—
 Crown Snowtex Tissue — Full Bleached White
 Crestex No. 1½ Tissue—Unbleached White and Manila
 Crest Du Plex Tissue—M. G. Unbleached White
 Lustex Tissue—M. G. Full Bleached White

Converting Kraft—
 Crown Grocery Bag Paper
 Crown Envelope Kraft
 Crown Gumming Kraft
 Crown Asphalted Kraft
 Crown Waxing Kraft

Drawing Manila—
 Crown Drawing Manila

Envelope Manila—
 Crown Envelope Manila

Excelsior Paper—
 Crown Tissue Excelsior

Fruit Papers —Plain and Printed—
 Crown Satina Fruit Wrap
 Crown Alfibre Fruit Wrap
 Crown Bleached Alfibre Fruit Wrap
 Crownoil Unbleached Alfibre Fruit Wrap
 Crownoil Unbleached Alfibre Fruit Wrap
 Crown Copperized Alfibre Fruit Wrap
 Crown Tomato Wraps—M. G. or M. F.—Pink, White or Manila
 Crown Cantaloupe Wrap—Treated Pink or Manila

Grocery Bags—
 Crown Kraft—S. O.
 Otter, Reliance, Eagle—S. O.
 Monarch—Striped M. F. Kraft—S. O.
 Shamrock Kraft—S. O. Green
 Bee—Unbleached Sulphite—S. O.
 Commander Kraft—Sq.
 Pure Fibre—(Unbleached Sulphite)—Sq.
 Snowfibre — Bleached Sulphite — S. O.

Gummed Tape—
 Crown Gummed Tape
 Crest Gummed Tape

Kraft Wrapping—
 Crown XX Kraft, Brown, M. F. Plain
 Monarch Kraft, Brown, M. F. Striped
 Crown Kraft—Natural Brown, M. F. Plain
 Crown Kraft—Silverstone Gray, M. F. Plain
 Crown Damask Kraft — Natural Brown, M. G. wide stripe
 Crown Damask Kraft—Silverstone Gray, M. G. wide stripe
 Crown Satina Kraft—Natural Brown, M. G. narrow stripe
 Crown Satina Kraft—Silverstone Gray, M. G. narrow stripe

Manifolding Paper—
 Crown Manifolding Tissue

Mill Wrappings—
 Crown Mill Wrapper

Napkins—
 Embossed, Genuine Crepe, Semi-crepe, Full Bleached Napkins
 Fixture and Special-fold Napkins
 Package Napkins — Full Bleached and colors

Newsprint—
 Standard News (rolls)
 Commander News (sheets)
 Crown Printers Roll News
 Crown Printers Sheet News
 Crown Flat-bed Sheet News
 Crown Pink, Green and Peach News

Odd Bags—
 Crown Carbon Black Bags
 Crown Banana Bags
 Crown Notion Bags
 Crown Millinery Bags
 Crown Garment Bags
 Crown Liquor Bags
 Crown Barrel Bags
 Crown Poultry Bags
 Crown Super Bags
 Crown Nail Bags
 Crown Confectionery Bags
 Crown Laundry Bags
 Crown Shopping Bags

Roll Toilet Tissue—
 10-Lb. Fourdrinier Tissue—650-1000 and 2000 count
 10-Lb. Fourdrinier Tissue—1000 and 200 count
 10-Lb. Fourdrinier Notched Oval Tissue — 400 count — 7 and 8-oz. rolls
 12-Lb. Full Bleached Tissue—1000 count
 12-Lb. Unbleached — Semi-crepe—650 count
 16-Lb. Unbleached — Semi-crepe—4-5-6-7 and 8-oz rolls
 Full Bleached Genuine Water Crepe—6-7-8 oz. rolls
 Semi-Bleached Genuine Water Crepe—6-7-8-oz. rolls

Specialty Bags—Plain and Printed—
 Crown Raisin, Prune, Peach and Fig Bags

Raisin Tray—
 Crown Sunbeam Raisin Tray

Salesbook Manilas—
 Crown Salesbook Manila

Sulphite Box Liners—
 Crown Water Crepe Box Liners—Pink, Blue and White
 Crown Machine Crepe Box Liners—Pink, Blue and White
 Crown Uncreped Box Liners—Pink, Blue and White

Sulphite Wrapping—
 Crown Manila
 Crown Alfibre
 Crown Grocerwrap

Tire Wraps—
 Crown Tire Wraps

Waxing Sulphite
 Crown Opaque Bread Wrap
 Crown Bleached Waxing Sulphite

Waxing Tissue—
 Crown Snowtex Waxing Tissue
 Crestex Waxing Tissue

Waxed Papers—
 Crown Waxfibre
 Alpine Waxfold

Crest Waxfibre
 Florist Tissue
 Waterproof Paper (Laminated)—
 Crown Laminated Kraft

●

CROWN WILLAMETTE PAPER CO.
 Division Crown Zellerbach Corporation
 Los Angeles
 Products
 Self-opening Grocery Bags (Otter Kraft)
 Fruit Wraps, plain and printed

●

CROWN ZELLERBACH CORP.
NATIONAL PAPER PRODUCTS
CO. DIVISION
 Port Townsend, Wash.
 Products
 .016 Kraft Liner Board
 .030 Kraft Liner Board
 .016 to .038 Suit Box Board
 Cement Bag Paper
 Grocery Bag Paper
 Sack Paper
 Kraft Wrapping Paper

●

CRYSTAL PAPER SERVICE CORP.
 Los Angeles
 Products
 "Crystal" Paper Drinking Cups
 "Crystal" Paper Souffle Cups
 "Crystal" Paper Food Containers
 "Crystal" Water Bottle Caps

D
DIXIE-VORTEX CO.
 Los Angeles, Calif.

Products
 Paper Water Cups
 Paper Soda Cups
 Paper Ice Cream Cups and Containers
 Cellophane-Wrapped Packaged Paper Cups

●

E
EL REY PRODUCTS CO.
 Los Angeles

Products
 Asphalt Roofing
 Asphalt Slate Surfaced Shingles
 Composition Shingles
 Saturated Lining Felt
 Saturating Felt
 Deadening Felt
 Red and Gray Duplex Sheathing
 Car Linings
 Industrial Floorings
 Dry Felts
 "Metallic" Surfaced Roofing

●

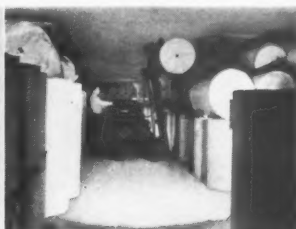
ENVELOPE MANUFACTURING CO.
 Los Angeles
 Products
 All types of Envelopes



AN INQUIRY—Dear Elwell-Parker:—In handling Pulp (or Paper, or Paper Products) at our Mill, we face this problem * * * * *.
* * * * * We understand you have had a great

deal of experience in the Paper Industry. What equipment do you suggest; and what would it do to reduce our costs?

Very truly yours,
John J. Progress, *Superintendent.*



AND THE ANSWER—Dear Mr. Mill Superintendent: One of the most satisfactory things that Elwell-Parker has been able to do in its 34 years' experience has been helping the Paper Industry to grow and make money.

By installing Elwell-Parkers in pulp and paper mills, owners have moved larger unit loads faster and more economically than before.

In newsprint plants, large Elwell-Parker Trucks have increased load-capacity, enabling manufacturers to produce wider sheets and manipulate heavy rolls with speed, ease and safety.

Today there is scarcely one load-handling operation in pulp and paper mills, the paper-products industries, newspaper and magazine publishing plants, or large printing plants and binderies, which Elwell-Parker Trucks and Cranes are not performing with speed and economy.

As evidence, we call your attention to pictures showing a few of the hundreds of important jobs that Elwell-Parkers are performing at a profit throughout your industry.

YOUR MOVE NEXT!

You, too, want first the benefit of Elwell-Parker's long, sound experience building Trucks and Cranes for the Paper Industry; and second the modern equipment that Elwell-Parker today is supplying to the Industry nation-wide. Trained Elwell-Parker Representatives will plan a System for *you* that will quickly pay for itself through reduced costs of handling your loads.

It's *your* move next! The Elwell-Parker Electric Company, 4231 St. Clair Avenue, Cleveland, Ohio.

COLBY STEEL & ENGINEERING CO.
425-6 Central Building • Elliot 5722
Seattle, Washington



ELWELL-PARKER *Power Industrial* TRUCKS

ESTABLISHED 1893 • BUILDING POWER INDUSTRIAL TRUCKS SINCE 1906

EVERETT PULP & PAPER CO. Everett and West Tacoma, Wash.

Products

Book Papers—

Everett English Finish Book, White, India, Yellow, Blue, Pink, Green, Orange
 Nautilus E. F. Book, White
 Everett Melody E. F. Book—White only
 Everett Melody Super Book—White only
 Symphony E. F. Book, White
 Symphony Super Book, White
 Masterpiece Book White
 Everett Super Book, White, India
 Nautilus Super Book, White
 Everett Melody E. F. Book—White only
 Everett Melody Super Book—White only
 Everett Art Book (English Finish) White, India
 Everett Monastery Text (Eggshell), White, India
 Nautilus Eggshell, White
 Anchor E. F. Book, White
 Binnacle E. F. Book, White
 Ensign E. F. Book, White
 Everett Super Rotogravure, White
 Everett Soap Wrapper (Alkali Proof), White
 "Hard-Wear" Catalog White
 Everett Non-Fading Poster, White, Orange
 Everett White Wove Envelope
 Everett Printing Manila—(Printcraft)
 Everett Blanking Paper—White

Label and Lithographic Papers

Litho Poster, White
 Everett M. F. Label, White—
 Everett Super Label, White—Regular
 Everett Super Label, White—Tub Sized
 Everett Super Label, White—B Finish—Regular
 Everett Super Label, White—B Finish—Tub Sized

Offset Papers—

Biplane Book (No. 1 Offset) White—Tub Sized
 Twinphase Book (No. 2 Offset) White—Tub Sized
 Everett No. 3 Offset—White

Writing Papers—

Everett Railroad Writing (O. P. S.) White, Amber, Blue, Pink, Green
 Everett Penmanship Writing (M Grade) White
 Everett No. 4 Opacity Bond, White
 Canary, Buff, Blue, Pink, Green, Goldenrod
 Everett Stadium Bond, White, Canary, Buff, Blue, Pink, Green, Goldenrod

Mimeograph Papers—

Everett Signwell Mimeo (152X Hard Sized) White Wove, Blue, Pink, Canary, Buff, Green, Goldenrod
 Everett Laid Mimeo (Slack Sized) White, Blue, Pink, Canary, Buff, Green, Goldenrod
 Everett No. 4 Mimeo Bond (Hard Sized) White, Wove
 Pensign Laid Mimeo (Slack Sized) White
 Pensign Wove Mimeo (Hard Sized) White, Blue, Pink, Canary, Buff, Green, Goldenrod

Binnacle Laid Mimeo (Slack Sized) White

Binnacle Wove Mimeo (Hard Sized) White
 Everett Copiwell Papers (Duplicating Papers) 3 grades

Tablets and Stationery—

Li-Rite Coil Wire Bound Notebooks, Composition Books, and Commercial Stationery
 Tablets, Pads, Composition Books, Notebooks and Fillers
 Opaque School Papers
 Drawing Papers
 West Trade Commercial Stationery
 Federal Reserve Perforated Pads
 West Trade Columnar Pads
 Adding Machine and Teletype Paper

F

FIBREBOARD PRODUCTS, Inc. Port Angeles, Sumner, Wash.

Los Angeles, Stockton, Antioch, Calif.
 San Francisco

Products

Boxboards—

Boxmakers Grades
 Tagboard
 Bristol Board
 Binders' Board
 Kraft and Jute Liners
 Corrugating, Rag, Straw and Sulphite Board

Paper Cans: Tubes—

Paper Cans
 Coffee Cans
 Special Cottage Cheese Cans
 Drug Cans
 "White-Tite" Cans
 Double "White-Tite" Cans
 Paper Caps and tin ends of all descriptions
 Mailing Tubes
 Telescope Mailing Tubes
 Screw Top Mailing Cases
 Kraft Tuck-end Mailing Tubes

Egg Packing—

6x6 Fillers
 Egg Cartons, 3x4 and 2x6
 "Cushion-Pak" Egg Cartons, 3x4 and 2x6
 Egg Case Flats

Folding Cartons

Raisin and Dried Fruit Cartons
 Fruit and Vegetable Packing
 Fruit and Berry Baskets
 Tea and Coffee Cartons
 Cereal Cartons
 Display Cartons
 Frozen Food Cartons
 Doughnut Cartons
 Butter and Ice Cream Cartons
 Miscellaneous Folding Cartons
 "Pure-Pak" Milk Containers
 "Tredonia" Bakery Packages

Corrugated Products—

Corrugated Rolls
 Photo Mailers
 "Super-Test" Corrugated Shipping Cases
 "Levelbest" Canners Cases
 Milk Cases
 Coffee Cases
 Beer Cases
 Wine Cases
 Glass Cases
 Miscellaneous Cases
 Cereal Cases

Butter Cases
 Display Stands
 Frozen Food Cases

Solid Fibre Products—

"Super-Test" Solid Fibre Shipping Cases
 "Levelbest" Canners Cases
 Fruit and Vegetable Cases
 Cannery Cases
 Dried Fruit Cases
 Salmon Cases
 "Re-file" Cases
 Butter Cases
 Miscellaneous Cases
 Cereal Cases
 Soap Cases
 Liquor Cases
 Hexagon Asphalt Drums

Pails—

Food Pails
 Ice Cream Pails

Commodity Folding Boxes—

Cake Boxes
 Laundry Boxes
 Cake Circles
 Candy Boxes
 Florist Boxes
 Clothing Boxes
 Hat Boxes
 Millinery Boxes
 Collar Bands

Fruit Packing—

Berry Baskets
 Liners—Corrugated and Chip
 Pads—Corrugated and Indent
 Collars
 Fig Trays
 Fig Partitions
 Fruit Baskets
 Peach Shims
 Orange Shims
 Basket Shims
 Shims—Plain and Combination
 Basket Circles
 Tree Bands
 Labels

FIELD-ERNST ENVELOPE CO. San Francisco

Products

Printed and Plain Business Envelopes for mailing and filing

FIR-TEX INSULATING BOARD CO. St. Helens, Ore.

Insulating and Acoustical Board

Fir-Tex Building Board
 Fir-Tex Ivykote Board
 Fir-Tex Finish Plan
 Fir-Tex Insulating Lath
 Fir-Tex Insulating Tile
 Fir-Tex Refrigeration Insulation Blocks
 Fir-Tex Roofing
 Fir-Tex Hardboard
 Firkote Sheathing

LLOYD A. FRY ROOFING CO. Compton, Calif. Portland, Ore.

Products

Asphalt Roll Roofing
 Asphalt Slate Surface Shingles
 Slate Roll Roofing
 Rag Felt
 Deadening Felt

G**GATES PAPER CO., LTD.**

Los Angeles
Products

Round Fibre Cans
Mailing Tubes of all types
Paper Cores

**GRAYS HARBOR PAPER & PULP CO.**

Hoquiam, Wash.

Products

Sulphite Bonds
Mimeograph
Manila
Writing
Offset
Specialties

H**HAWLEY PULP & PAPER CO.**

Oregon City
Products

Newsprint—
Standard Shade and Blue White
Rolls and Sheets
Poster Paper
Drawing Manila—Standard Colors
Sulphite Wrapping—
Cheviot Wrapping in Blue, Green,
Red, Tan and Grey
Cheviot Bristol in Eight Colors
Cheviot Book and Mimeo Paper in
Seven Colors
Treated Cheviot Innerwrap
Cheviot Printrap in six colors
Cheviot Envelope Sulphite in four
colors
Cheviot Litewrap
Meat Wraps in Bleached, Manila
and Cheviot Colors
Grocers and Butchers Wrapping
Bakers Manila
Macaroni Papers
Treated Moistproof Wrapping in nat-
ural white and colors
Sulphite Screenings
Corrugating Boxboard
Deciduous and Soft Fruit Wrappers
Tissue Paper, Bleached and Un-
bleached
Bleached Toilet Tissue
Toilet Tissues in Rolls
Towels, Interfolds and Rolls for Time-
Controlled Towl-Craft Cabinets
Grocery Bags
Kraft Wrapping Paper, No. 1 and
No. 2

I**INLAND EMPIRE PAPER CO.**

Millwood, Wash.

Products

Newsprint—
Rolls and Sheets
White, cream, colors
High Grade News—
Special halftone and magazine
print
No. 1 Colored Poster
Mimeograph News—
Laid and wove
White and six colors
Sub. 16, 20 and 24

Coarse Papers—
Car Linings
Screenings
Ham Wrap
Sheathing

Bond—
No. 4 Bond in white and colors
Mimeo Bonds

Ledger—
No. 4 Ledgers

Book—
Eggshell Book
English Finish Book
M. F. Book

Envelope—
Fibretint Envelope
White Wove Sulphite Envelope

Wrapping—
Fibretint Wrapping
Empire Butchers Bleached
Butchers Sulphite
Fibretint Butchers
Butchers Manila
Domestic Kraft Wrapping

Sulphite and Groundwood Special-
ties—

J**THE JAITE COMPANY**

Jaite, Ohio

Plants: St. Helens, Ore.
Wilmington, Cal.

Offices: San Francisco
Products

Multiwall Sewn Paper Bags

**JOHNSON ENVELOPE CO.**

San Diego, Calif.

Products

Catalog Envelopes
Expanding Envelopes
File Folders
Filing Envelopes
Mailing Envelopes
Merchandise Envelopes
Photo Mailers
Tag Envelopes

**JOHNS-MANVILLE SALES CORPORATION**

San Francisco

Materials Manufactured at Pacific Coast
Factories

J-M Asbestos Shingles—
Dutch Lap, Hexagonal
No. 35 American Method
J-M Asbestos Siding Shingles

Cedargrain
Texture Shingles

J-M Rock Wool Home Insulation
Type A—Loose Wool
Type B—Full-Thick Bats
Type B—Semi-Thick Bats

J-M Roofing Materials
Built-Up Asbestos & Rag Felt Roof-
ings
Asphalt Shingles
Smooth Surfaced Roll Roofings
Slate Surfaced Roll Roofings
Building Papers—Roofing Felts
Roof Coatings and Putties

J-M Industrial Building Materials
J-M Waterproofing Materials
J-M Celite for Concrete

J-M Power Products
Refractory Products
Miscellaneous Power Products
Transite Flue Pipe
Transite Pressure Pipe
Transite Sewer Pipe
Asbestos Paper
85% Magnesia Insulation
Low Pressure Insulations
High Pressure Insulations
Insulating Cements
Insulating Powders
Insulating Brick
Filter Aids & Mineral Fillers

L**LAMINATED PAPER BOARDS**

San Francisco, Calif.

Products

Laminated Board and Specialty Paper
Products

**W. P. LASS COMPANY, INC.**

Santa Cruz, Calif.

Sales Office, San Francisco

Products

Convert Paper into Floral Supplies—
Pots and Vases

**LONGVIEW FIBRE COMPANY**

Longview, Washington

Products

Board—
Sulphate Test Liner
Sulphate Corrugating Board
Kraft Boxboard

Paper—
Plain and Watermarked Machine
Glazed Kraft Wrapping
Plain and Watermarked Machine
Glazed Kraft Bag Papers
Plain and Watermarked Machine
Glazed and Machine Finished
Bleached Kraft
Machine Glazed Envelope Kraft
Papers
Machine Glazed and Fourdrinier
Tire Wrap
Fourdrinier Machine Finished
Wrapping Papers
Fourdrinier Machine Finished
Butchers' Papers
Fourdrinier Machine Finished
Bag Papers
Printed Wrapping Papers

Bags—(Plain or Watermarked, Ma-
chine-glazed or Machine Finished,
Printed or Unprinted)

Grocery Bags
Millinery and Notion Bags
Garment Bags
Barrel Bags
Poultry Bags

Nail Bags
Laundry Bags
Cigarette Carton Bags
Doughnut Bags
Liquor Bags
Shopping Bags
Bread Bags
Confectionery and Pop Corn Bags

Sugar Bags
Raisin Bags
Bag Specialties

Containers—
Solid Fibre Shipping Containers
Corrugated Shipping Containers

Folding Boxes—
Clothing Boxes
Laundry Boxes
Cake Boxes
Pie Boxes
Millinery Boxes
Folding Box Specialties

Waxed Paper Products—
Waxed Papers
Waxed Butter Cube Bags
Waxed Egg Crate Liner Bags
Waxed Specialties

Asphalted Paper Products—
Duplex Waterproof Kraft Sheathing Paper
Duplex Waterproof Kraft Car Liner
Duplex Waterproof Kraft Egg Crate Liner Bags
Duplex Waterproof Kraft Poultry Box Liner Bags
Asphalted Specialties

Crepe Paper Towels & Creped Specialties

L. A. ENVELOPE MANUFACTURING CO.

Los Angeles

Products

Business Envelopes
Catalog Envelopes
Special Size Envelopes

LOS ANGELES PAPER BAG CO.

Los Angeles

Products

Paper Bags—All Types—All Grades
Grocery
Millinery & Notion
Garment
Shopping
Sacks
Hardware
Sugar
Candy
Bakers
Bag printing of all kinds.

M

MEKANIKLOTH COMPANY Bellingham, Wash.

Products

Mekan-i-Kloth—
Soft Wiping Tissue
Substitute for Rags
Grease Absorbent
Sanitary-Disposable
All Ways a clean cloth

N

NATIONAL CARD, MAT & BOARD COMPANY

Los Angeles

Products

Artists Illustration Board

Backing Board
Embossed Boards
Linen Finish Boards
Calendar and Photo Mounts
Card and Mat Board Products
Coated Board
Cover Papers
Display Cases and Easels
Greeting Card Stock
Illustration Boards and Bristol
Paper Board Specialties
Pasted Board
Picture Backing Board
Poster Board and Paper
Box Cover Papers
Checkbook Cover
Cover Paper Decorated
Cover Paper Embossed
Foil Papers
Melton Mounts
Memo Book Cover
Mount Boards
Camera Club Mount Boards — Plain and Cut-out

O

OREGON PULP & PAPER CO.

Salem, Ore.

Products

White and Colored Bond
Writings
Envelope
Ledger
Mimeograph
Glassine, greaseproof—
Bleached and unbleached
Specialties
Manifold
Parchment

OWENS-ILLINOIS PACIFIC COAST COMPANY

San Francisco

Products

Corrugated Shipping Cases (1)
Corrugated Fruit Box Pads
Liners and Collars (2)
Brands
(1) OnIzed
(2) No-Bruz

P

PACIFIC COAST ENVELOPE CO. DIVISION

San Francisco

Products

Printed and plain envelopes for mailing and filing

PACIFIC COAST PAPER MILLS Bellingham, Wash.

Products

Toilet Tissue—
Bleached, Manila and unbleached white roll
Interfolded and Flat Pack
Mekan-i-kloth
Napkins—
Colored, embossed
Flat, quarter-fold
Dispenser fold
Sanitary napkins

Towels—
Bleached Kraft, unbleached
Sulphite and sulphate Towels

Brands

M. D. Tissue, etc.
Sewdette Sanitary Napkins

PACIFIC MILLS, LIMITED

Ocean Falls, B. C.

Converting Plant, Vancouver, B. C.

Newsprint
Kraft paper, M. F. and M. G. plain and striped
Butchers Manila
Sulphite tissues
Toilet tissue
Napkins
Fruit Wraps
Towels
Bread Wraps
Printed Wrapping
Plain and printed waxed papers
Solid Fibre Shipping Cases
Gummed Kraft and Sulphite Tape—
Plain and Printed

PACIFIC NORTHWEST PAPER MILLS, Inc.

Portland

Safety Paper
Adwrap Decorated Wrappings
Specialties

PACIFIC ROOFING CO.

Portland, Oregon

Products

Roll Roofing Felts, Building Papers,
Roof Coating and Asphalt
Complete line of Roofings—Shingles,

PACIFIC STRAW PAPER & BOARD COMPANY

Longview, Wash.

Products

Combination Board
Plain Chip Board
Solid News
News and Manila Lined
Bleached Manilas
Mist Gray and Colored Boards
Container Board
Test Board
White Patent Coated Board
Solid Pulp Board
Egg Case Filler
Tag Boards
Folding Boxes
Wax Lined Food Trays

PACIFIC WAXED PAPER CO Seattle, Wash.

Products

Printed Waxed Paper—
Bread Wrappers
Candy Bar Wrappers
Frozen Fruit & Vegetable Wrappers
Transparent Cake Wrappers
Adsealit Bands
Plain Waxed Paper
Waxed Glassine
Transparent Cake Wrappers
Vegetable Crate Liners

Delicatessen Paper
Colored Twisting Papers

Bags—Plain and Printed
Glassine—Waxed and Unwaxed
Cellophane
Window Bags
Dry Waxed Bags
Laminated Bags
Specialty Bags of All Kinds

Tredonia Moistureproof Show Case
Boxes with Cellophane windows for
doughnuts, sweet doughs, layer
cakes, and bakery products of all
kinds

PALMER-LUSE ENVELOPE CO.
606 E. 12th St.
Los Angeles

Products
Greeting Card Envelopes
Wedding Announcement Envelopes
Baronial Type Envelopes
Commercial Envelopes

PAPER SUPPLY CO.
Los Angeles

Products
Resale Rolls of—
Shelf Paper
Tissue Paper
Holly Paper
Decorative Wrappings
Cellophane

Distributors:
Ribbons made of "Cellophane"
Ribbons made of "Pliofilm"
Glassips Cellophane Soda Straws,
all colors for hot or cold bev-
erages

PARAFFINE COMPANIES, INC.
Emeryville, Calif.

Products
Asbestos Siding Shingles
Mineral-Surfaced Shingles
Thermoslab (thick roof slabs)

Roll Roofings
Mineral-Surfaced Roofings
a. P & B
b. Malthoid
c. Durable
Smooth-Surfaced
a. P & B
b. Malthoid
c. Durable
d. Santo
e. Paramount
f. Raintite

Aluminum Roofings
a. Pabco Alumi-Shield

Building Papers
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**Alaskan Forests—
Our Reserve Supply**

Importance of the Alaska pulpwood reservoir in relation to world supplies and markets is emphasized in the Report of the Chief of the Forest Service for 1939. The report was written by the late F. A. Silcox.

"Even a brief survey of our soft pulpable wood resources in relation to world supplies," Silcox wrote, "brings out very clearly the need to conserve and build up our forest resources. Available reserves of such species as spruce, hemlock, and the pines are limited. Producing countries that export heavily, like Norway, Sweden, and Finland, cannot increase their pulpwood production very much without eating into their forest capital. This they are wisely loath to do. Mill capacities in or directly tributary to Eastern Canada are beyond the capacity of easily accessible forests to sustain, and immediate supplies are getting more remote. There is practically no commercial supply in the East or in

Africa. There is little or none in South America or Australia.

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● "The only reserves of soft pulpable woods are in (1) the Union of Soviet Socialist Republics, (2) Southeastern United States, and (3) a Northwest that includes British Columbia and Alaska. If, as competent observers believe, the Soviet Union must and will use practically all the wood pulp she can produce for the next two decades, any marked expansion in use elsewhere must come from the last two reserve supplies just mentioned.

World production of wood pulp was 16,719,000 short tons in 1931. In 1937 it was 26,121,000 short tons. This increase, more than 56 per cent in six years, emphasizes the need for management of pulpable forests in the United States. So does the fact that in addition to 40 or more pulp mills, of which 10 of the largest have been installed during the last five or six years, there are more than 10,000 sawmills and other wood-using industries that also depend on southern forests for raw-material supplies.

"Of our own reserves, Southeast Alaska has enough soft pulpable woods, mainly hemlock and spruce, to provide continuous production for seven mills with a daily capacity of 500 tons each."

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TELL THE STORY**



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